



Oregon

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TO: Oregon medical providers

SUBJECT: Claim closing and other impairment-focused examinations and forms for reporting impairments

EFFECTIVE: June 1, 2010

This bulletin is designed to:

- **Assist medical providers to conform to the Oregon Disability Rating Standards (Oregon Administrative Rules 436-035) when conducting impairment-focused examinations for the purpose of determining an injured worker's disability**
- **Describe the clinical techniques and protocols the medical provider is to use, as well as detailed impairment sections, to ensure that examination findings are reported in a manner consistent with the Oregon Disability Rating Standards**
- **Provide impairment reporting forms**

This bulletin replaces Bulletin No. 239 dated July 15, 1998 and the Addendum issued July 15, 2000.

Following is a list of changes made to this bulletin:

- Updated Workers' Compensation Examination Report – Quick Reference
- Revised existing impairment forms
- Created new impairment forms
- Incorporated whole person methodology based on law changes
- Updated impairment information based on rule changes
- Organized bulletin to mirror rules where appropriate

Following is a list of impairment reporting forms that are attached to this bulletin:

- Form 440-2278C, "Spinal (Cervical) Range of Motion"
- Form 440-2278T, "Spinal (Thoracic) Range of Motion"
- Form 440-2278L, "Spinal (Lumbar) Range of Motion"
- Form 440-2279, "Upper Extremity Range of Motion Deformity/Deviation Amputation and Sensation"
- Form 440-2312, "Visual Impairment"
- Form 440-4842, "Shoulder Range of Motion"
- Form 440-4841, "Lower Extremity Range of Motion"

If you have questions about Bulletin No. 239, contact the Benefit Services Section at 503-947-7816.

/s/ John L. Shilts

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Workers' Compensation Division

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Workers' Compensation Examination Report – Quick Reference

Note: This is not intended to be a comprehensive reference. Please refer to *Bulletin 239* for additional information.

Definitions

Direct medical sequela means a condition which originates or stems from an accepted condition that is clearly established medically.

Impairment means a compensable permanent loss of use or function of a body part or system related to the compensable condition.

Medically stationary (MS) means the point at which a worker's medical status is not expected to improve, either from medical treatment or the passage of time.

Physical capacity evaluation (PCE) is an objective, directly-observed measurement of a worker's ability to perform a variety of physical tasks combined with subjective analyses of abilities by worker and evaluator.

Residual functional capacity (RFC) is an individual's remaining ability to perform work-related activities. RFC is a measurement of the capacity to lift/carry and/or other permanent restriction.

Regular work means the job the worker held at the time of injury. To be released to regular work, the worker must be capable of doing all tasks and functions of the job the worker was performing at the time of injury.

Physician responsibilities

- Determine medically stationary status of the worker. The medically stationary date must be the date of the examination

and cannot be a projected date. Notify the worker, insurer, and all health care providers involved in the worker's treatment.

- Advise the worker of the date they are released to return to regular or modified work and provide the insurer written notice within five days.
- Perform a closing examination and send the report to the insurer within 14 days of the medically stationary date. If the attending physician refers the worker for a closing examination, this referral must be made within eight days of the medically stationary date.
- Measure and report all findings of residual impairment. Under Oregon law, it is the department's and the insurer's responsibility to rate impairment.

Contents of a closing report

- History
- Treatment
- Medically stationary status
- Residual impairment findings (contralateral measurement, if applicable)
- Residual functional capacity
- Work status (regular or modified)
- Apportionment (if applicable)
- Preexisting condition/estimating impairment (if applicable)
- Validity statement (for rating impairment)

- Chronic condition
- Medical reasoning with all findings

Reporting impairment

Chronic condition – “significantly limited in the repetitive use of” a body part. This language must be used to establish a chronic condition of a body part.

Upper and lower extremities

- Etiology
- Amputation – most proximal level
- Reattachment – any loss of overall length
- Active ROM – in degrees, in all appropriate directions
- Angle of fusion/ankylosis – in degrees
- Length discrepancy – in inches
- Angulation or malalignment
- Strength loss – identify affected muscle and peripheral or spinal nerve
- Dermatological/vascular conditions
- Body part – signs and symptoms

See Bulletin 239 for extremities forms

Specific to upper extremities

- Rotational deformity/lateral deviation
- Sensation – palmar surface, hand and fingers (2 pt. discrimination in mm.)
- Motor loss – brain/spinal cord damage, ability to perform: self-care and grasp/hold function

See Bulletin 239 for upper extremities form

Workers' Compensation Examination Report – Quick Reference

Specific to lower extremities

- Sensation – plantar surface, foot and toes
Partial or total loss
- Instability/laxity
 - Knee, name ligament and grade
Grade 1 (mild), Grade 2 (moderate),
or Grade 3 (severe)
 - Ankle, name ligament and grade
mild, moderate, or severe
- Chondromalacia -
 - Specify grade
 - Describe extent of any arthritis,
DJD
- Walking or standing - permanently
precluded for a total of more than 2
hours in 8-hour period
Motor loss – brain/spinal cord damage,
ability to walk or stand

See Bulletin 239 for lower extremities form

Hearing

- Findings
- Audiogram (500, 1000, 2000, 3000,
4000, & 6000 Hz)
- Diagnosis
- Medically stationary date
- Report to be provided by or reviewed
and commented on by the attending
physician
- Tinnitus – does it require job
modifications

Vision

- Near and distance acuity (best corrected)
- Lens implant
- Visual fields as measured on Goldmann
perimeter with 111/4e stimulus
- Diplopia
- Ocular disturbances – stereopsis, glare
(photophobia), monocular diplopia
(mild, moderate, severe), and tearing

See Bulletin 239 for vision form

Spine

- Active ROM – measured by an
inclinometer
- Compression fracture – percentage of
compression
- Posterior element fracture – name
fractured vertebra

See Bulletin 239 for spinal forms

Shoulder

- Etiology
- Active ROM – in degrees, in all required
directions
- Angle of fusion/ankylosis – in degrees
- Strength loss –
 - Identify affected muscles and
nerves
 - Use 0 – 5/5 method
- Chronic dislocations

See Bulletin 239 for shoulder form

Hip

- Etiology
- Active ROM – in degrees, in all required
directions
- Angle of fusion/ankylosis – in degrees
- Strength loss –
 - Identify affected muscles and
nerves
 - Use 0 – 5/5 method

Pelvis

- Fracture – displacement, if any

Other whole person impairment

The following systems and areas of the body require specific tests to determine the extent of any impairment. These tests and specific reporting requirements are listed in Bulletin 239.

- Abdomen
- Cardiovascular
- Respiratory
- Cranial nerves and brain
- Spinal cord
- Mental illness
- Hematopoietic
- Gastrointestinal & genitourinary
- Endocrine
- Integumentary & lacrimal
- Immune

BULLETIN 239

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1. PURPOSE OF BULLETIN

This bulletin explains what medical information is required for permanent disability determination. The objective findings of impairment and residual functional capacity must be reported in the manner described by this bulletin.

2. DEFINITIONS

For ease of reference, the department provides the following definitions for certain terms and conditions:

Accepted condition is a medical condition for which an insurer accepts responsibility for the payment of benefits on a claim filed by an injured worker. The insurer provides written notice of accepted conditions. (ORS 656.262) The insurer generally will accept specific conditions based on the diagnosis by the physician or nurse practitioner. It is important that the health care provider report a diagnosis rather than a symptom.

Activities of daily living (ADL) include but are not limited to the following personal activities required by an individual for continued well-being: eating and nutrition; self-care and personal hygiene; communication and cognitive functions; and physical activity (e.g., standing, walking, kneeling, hand functions, etc.).

Attending physician is a health care provider primarily responsible for the treatment of an injured worker.

Closing examination is a medical examination to measure a worker's impairment, which occurs when the worker is medically stationary.

Direct medical sequela means a condition which originates or stems from an accepted condition that is clearly established medically.

Impairment means a compensable, permanent loss of use or function of a body part or system related to the compensable condition.

Medically stationary means the point at which a worker's medical status is not expected to improve, either from more medical treatment or the passage of time.

This term refers **only** to the worker's accepted medical condition and any direct medical sequela. If a medical provider believes further pharmacological therapy, physical rehabilitation, or work hardening will materially improve a worker's medical condition or decrease impairment, the worker is not yet medically stationary.

Physical capacity evaluation (PCE) is an objective, directly-observed measurement of a worker's ability to perform a variety of physical tasks combined with subjective analyses of abilities by the worker and evaluator. Physical Tolerance Screening, Blankenship's Functional Evaluation, and Functional Capacity Assessment are considered to have the same meaning as PCE.

Regular work means the job the worker held at the time of injury. To be released to regular work, the worker must be capable of doing all tasks and functions of the job the worker was performing at the time of injury, without restrictions or modifications.

Residual functional capacity (RFC) means an individual's remaining ability to perform work-related activities despite medically determinable impairment resulting from the accepted compensable condition and any direct medical sequela. An RFC evaluation includes, but is not limited to, capability for lifting, carrying, pushing, pulling, standing, walking, sitting, climbing, balancing, bending, twisting, stooping, kneeling, crouching, crawling, and reaching.

Work capacity evaluation (WCE) is a physical capacity evaluation that focuses on the ability to perform work-related tasks. Work Tolerance Screening has the same meaning as a WCE.

3. **RESPONSIBILITIES OF A MEDICAL PROVIDER REGARDING CLOSING EXAMINATIONS**

Oregon law places the following responsibilities and time frames on medical providers regarding claim closure:

- The medical provider establishes the medically stationary date and informs the worker, the insurer, and other medical providers who are treating the worker.

Note: The medically stationary date must be the date of the examination in which the worker is declared medically stationary and cannot be a projected date.

- The medical provider performs a closing examination, measuring and reporting all applicable findings of impairment and RFC as described in this bulletin, and submits the report to the insurer within 14 days of the examination in which the worker was determined medically stationary.
- When the attending physician or authorized nurse practitioner refers the worker to another medical provider for all or part of the closing examination, the examination must be arranged within eight days of the worker being declared medically stationary.
- When the worker is medically stationary and the attending physician is an authorized nurse practitioner, the authorized nurse practitioner must refer the worker to a licensed physician who qualifies as an attending physician to complete a closing examination, if there is a reasonable expectation of permanent impairment.
- Upon request, a closing examination will be performed when the medical provider is notified by the insurer that the worker's accepted condition and any direct medical sequela are no longer the major contributing cause of the worker's disability or need for medical treatment and a major contributing cause denial has been issued. The medical provider will perform a closing examination, measuring and reporting all applicable findings of impairment, residuals, or limitations attributable to the accepted condition and any direct medical sequela as described in this bulletin and submit the report to the insurer within 14 days of the examination.
- Reports for closing examinations requested by the attending physician, the authorized nurse practitioner, or the insurer must be submitted to the attending physician within seven days of the examination. The attending physician must review the report and, within seven days of receipt of the report, concur in writing or provide a report describing any finding and conclusion with which the attending physician disagrees.
- The medical provider must use caution to avoid statements expressing personal views about medical conditions. Such statements are often biased or generalize about medical conditions that predetermines the results of the examination. For instance, to say that all musculotendinous injuries resolve without residual impairment is a broad statement that fails to make allowance for individual variance. Other frequently raised topics where medical providers are tempted to insert personal philosophy include criticisms about the etiology of particular medical conditions, and challenges to the validity of range-of-motion testing.
- Under Oregon law, the rating of disability is an administrative function performed by the Workers' Compensation Division or by the insurer. It is **not** the medical provider's responsibility to rate a worker's level of disability. Creating an expectation of a specific level of disability may result in the worker being disappointed and frustrated if the expectation is not met.

4. EXAMINATION REPORT OUTLINE

Submit a complete report **OR** legible chart notes which contain all of the information listed below.

a. History

A brief description of the accepted condition and any direct medical sequela of the accepted condition.

A summary of the worker's medical history in this claim and identification of any preexisting, denied, or unrelated conditions.

b. Impairment findings

A description of all impairment findings that are permanent and due the accepted condition, and any direct medical sequela.

A medical opinion addressing the validity of the impairment findings, with a full explanation based on sound medical principles, stating why the findings are valid or invalid.

c. Treatment

A brief description of the course of treatment.

d. Medically stationary date

The date of the examination when the worker's accepted condition and direct medical sequela were determined to be medically stationary. Projected medically stationary dates are not acceptable.

e. Work status

A description of the worker's current return to work status, including whether the worker has been released to regular work and if the worker has returned to regular work.

Please note that "regular work" under Oregon law means the job the worker was doing at the time of injury without restrictions or modifications.

If the worker has not been released to or returned to regular work, submit either:

- A description of the worker's RFC as specified in *GENERAL PRINCIPLES OF MEASURING AND REPORTING IMPAIRMENT AND RESIDUAL FUNCTIONAL CAPACITY* (see section 5); or
- An explanation of why you believe the worker is unable to perform **any** work.

f. Apportionment

When there is impairment due to the accepted condition and other unaccepted conditions, describe the current total overall findings of impairment and those findings that are due to the compensable condition. Describe specific findings (e.g., range of motion, strength, instability, etc.) that are partially attributable to the accepted condition, and any applicable superimposed or unrelated conditions.

Example: 75% of the decreased range of motion is due to the accepted condition and any direct medical sequela, and the remaining percentage is due to preexisting degenerative joint disease.

g. Estimating impairment

If the worker's overall condition is not medically stationary, and an examination to obtain the findings of impairment is requested for the accepted conditions, the following applies:

- Describe the current overall impairment findings considering the worker's overall condition and any direct medical sequela. Then estimate the likely future portion of those findings that would be present at the time the worker is anticipated to become medically

stationary.

- Next, determine if the findings, which are anticipated to remain, are due only to the accepted condition and direct medical sequela, or to a combination of those conditions and any unaccepted conditions. If the findings are due to a combination of the accepted and unaccepted conditions, estimate the portion of those findings that would be due only to the accepted condition and direct medical sequela.
- Finally, estimate the likely future RFC due only to the accepted condition and direct medical sequela at the time the worker is anticipated to become medically stationary.

5. **GENERAL PRINCIPLES OF MEASURING AND REPORTING IMPAIRMENT AND RESIDUAL FUNCTIONAL CAPACITY (RFC)**

These general principles provide the medical provider with the methods to measure and report impairment and describe RFC.

a. **Measurement methods**

Use the methods described in this bulletin to measure and report impairment. The inclinometer is required to measure ranges of motion of the spine (see appendix A). Goniometric measurements are required for measuring range of motion in all other body parts.

b. **Validity**

Validity is established for findings of impairment according to the criterion noted in this bulletin unless the validity criterion for a particular finding is not addressed or is determined inappropriate for a particular worker (e.g., sensation findings following anatomical pattern, no give-way weakness demonstrated). A failed straight-leg raising (SLR) cannot be the sole criterion used to invalidate lumbar flexion.

When the validity criteria are not met but you determine the findings are valid, you must provide written rationale based on sound medical principles, and explain why the findings are valid.

When determining validity, cultural differences need to be taken into consideration because they may cause the medical provider to misinterpret the worker's responses. It is expected that the medical provider will use appropriate communication techniques when examining a worker with a different cultural background than their own so that accurate disability findings are determined and reported.

c. **Range of motion and angle of fusion**

Measure the active movement of a joint while the worker is exerting full effort (unassisted by the examiner) and report the maximum degrees of retained motion. The degrees of motion are related to the neutral zero position of the body part being measured. For a fused joint, the angle of fusion is reported in degrees with reference to the same neutral (zero) position.

Fear of injury or neuromuscular inhibition may limit mobility by diminishing effort. Such limitations provide inaccurately low and inconsistent measurements leading to improperly inflated impairment estimates. Pain is considered if it results in measurable findings such as decreased range of motion or decreased strength. Reproducibility of joint motion is the criterion for validating optimum effort. When measuring spinal range of motion, take three consecutive measurements of mobility. These must fall within $\pm 10\%$ or 5 degrees (whichever is greater) of each other to be considered valid. The measurements may be repeated up to six times. If there continues to be inconsistencies, the measurements are considered invalid.

When measuring spinal range of motion with an inclinometer, an additional validity criterion (the straight-leg raising validity test of lumbar flexion) is applied to the measurement of the angles of flexion and extension of the lumbar spine at midsacrum (see appendix A).

- d. **Measurement and comparison to a contralateral joint/extremity**
Always report the range of motion, grade of laxity, or loss of strength in the contralateral joint/extremity, unless the contralateral joint/extremity has a history of injury or disease. Determine and indicate in the report whether the worker has a history of injury or disease in the contralateral joint/extremity.

e. **Measuring muscular strength**

Express the strength of muscular contraction using the following 0 to 5 scale.

Grade

5/5: The worker retains range of motion against gravity with full resistance applied.

5-/5

4+/5

4/5: The worker retains range of motion against gravity with some resistance applied.

4-/5

3+/5

3/5: The worker retains range of motion against gravity without resistance applied.

3-/5

2+/5

2/5: The worker retains range of motion with gravity eliminated.

2-/5

1+/5

1/5: The worker has evidence of slight muscle contractility; no joint motion.

1-/5

0/5: The worker has no evidence of muscle contractility.

f. **Activities of daily living (ADL)**

When a worker is impaired in the performance of the ADL, describe the restricted activity. "Performance" may relate to the worker's physical impairment (including limited endurance), cognitive impairment, or psychosocial impairment.

g. **Chronic**

Chronic impairment to a body part area applies to the body part itself and not an action performed by the body part. Identify the body part when, due to the accepted condition or direct medical sequela, a chronic and permanent medical condition significantly limits a worker's ability to repetitively use a body part.

Example: "Chondromalacia of the patella significantly limits this worker's ability to repetitively use his knee."

h. **Residual functional capacity (RFC)**

Describe the worker's RFC due to the accepted condition and any direct medical sequela. RFC may be determined by either:

- Reasonable physical limitations established by a medical provider's opinion and knowledge of a worker's specific pathophysiology; or
- A second level PCE or WCE.

Specify all of the following elements of a worker's RFC:

- The maximum number of consecutive hours a worker is able to sit, stand, and walk.

- The number of hours a worker is able to work in a day.
- The weight in pounds the worker is able to lift and carry using the frequency guidelines listed below.

Frequency Guidelines

"Occasionally" - performs the activity up to 1/3 of the time

"Frequently" - performs the activity between 1/3 and 2/3 of the time

"Constantly" - performs the activity 2/3 or more of the time

- The maximum frequency the worker is able to perform the following work activities (using the frequency guidelines above):

Work Activities

Pushing/pulling	Climbing	Balancing
Stooping/bending	Kneeling	Twisting
Crouching	Crawling	Reaching

i. Estimating impairment

In situations where the worker's overall condition is not medically stationary and an examination to obtain the findings of impairment is requested for the accepted condition, "estimate" the percentage of impairment due to the accepted condition and any direct medical sequel. This estimation is not an exact science and is based on the medical provider's expertise, professional judgment, and knowledge of the worker's condition. The steps to this process are:

- Measure the impairment findings of the worker (for overall condition).
- Estimate the percentage of those overall findings that would be expected to still be present when the worker becomes medically stationary. Conversely, identify the percentage of impairment that will resolve by the time the worker becomes medically stationary.
- Estimate the percentage of remaining findings due to the accepted condition and any direct medical sequela.

6. UPPER EXTREMITY

Upper extremity includes humeral head to fingers, but does not include the shoulder joint. For most upper extremity injuries, complete Form 440-2279, "Upper Extremity Range of Motion" (attached) in conjunction with the closing examination report.

a. Amputation or resection without reattachment

For the thumb, indicate the most proximal level of amputation as specified below:

- Skin (dermis) only
- Significant flesh or tissue loss only (no bone)
- Bone involvement to mid-shaft of the distal phalanx
- Proximal to and including mid-shaft of the distal phalanx to and including the head of the proximal phalanx
- Proximal to the head of the proximal phalanx

For the fingers, identify the finger(s) involved and indicate the most proximal level of amputation as specified below:

- Skin (dermis) only
- Significant flesh or tissue loss only (no bone)
- Bone involvement to mid-shaft of distal phalanx
- Proximal to and including mid-shaft of distal phalanx to the distal epiphysis head of the middle phalanx
- Proximal to the distal epiphysis head of the middle phalanx to mid-shaft of the middle

- phalanx
- Proximal to mid-shaft of middle phalanx to and including the distal epiphysis head of the proximal phalanx
- Proximal to the distal epiphysis head of the proximal phalanx

For amputations proximal to the carpometacarpal joints, indicate the most distal bony landmark involved in the amputation. For oblique amputations, indicate the most proximal bone loss.

b. Amputation or resection with reattachment

Loss of length in a digit due to fractures, loss of soft tissue from infection, amputation or resection with reattachment, or like causes are assessed by comparing the remaining overall length of the digit to the amputation chart found on Form 440-2279, "Upper Extremity Range of Motion" (attached) and providing the overall length equivalency.

c. Thumb or finger deformity

Describe any rotational, lateral, dorsal, or palmar deformity of the thumbs or fingers and explain the etiology.

d. Range of motion

Provide active (unassisted) ranges of motion in the following body parts expressed in retained degrees on Form 440-2279, "Upper Extremity Range of Motion" (attached):

- Flexion and extension of the interphalangeal and metacarpophalangeal joints, and flexion and extension of the carpometacarpal joints of both thumbs.
- Flexion and extension in the DIP, PIP, and MP joints of the fingers.
- Dorsiflexion, palmar flexion, radial, and ulnar deviation of both wrists.
- Flexion, extension, pronation, and supination of both elbows.

Determine whether the contralateral joint has a history of injury or disease.

If the condition has resulted in ankylosis of the joint, provide the plane of motion (e.g., flexion and the angle of degree of fixation).

e. Instability

Categorize joint instability in the fingers, thumbs, or hand as follows:

- Mild (less than 10 degrees)
- Moderate (10 degrees to 20 degrees)
- Severe (greater than 20 degrees)

f. Sensation loss

Describe sensation in the palmar surface of the hands and digits based upon two-point discrimination measured in millimeters. For the digits, measure both the radial and ulnar side of the entire digit. For the palm, identify whether the median nerve and ulnar nerves are impaired. Report findings on Form 440-2279, "Upper Extremity Range of Motion" (attached).

Describe hypersensitivity in terms of mild, moderate, or severe and identify the involved areas.

g. Forearm/Arm

Describe arm length discrepancies in inches.

Describe in degrees the increased lateral deviation at or above the elbow, with the elbow in maximum active extension. In the event of fracture, specify whether this has resulted in angulation or malalignment other than at or above the elbow.

h. Strength loss

Injuries to unilateral spinal nerve roots or the brachial plexus resulting in strength loss in the arm, forearm, or hand are identified according to the specific nerve root (C-5 through T-1) that innervates the weakened muscle.

Injuries to peripheral nerves resulting in strength loss in the upper extremities are identified according to both the peripheral nerve and affected muscle demonstrating decreased strength.

Describe muscle strength loss in the 0-5/5 method as specified in the *GENERAL PRINCIPLES OF MEASURING AND REPORTING IMPAIRMENT AND RESIDUAL FUNCTIONAL CAPACITY* (see section 5). Explain in detail the etiology of the strength loss and provide a contralateral comparison.

i. **Motor loss**

For motor loss in any part of the arm due to brain or spinal cord damage, select one of the following statements that best describes the worker's ability:

- Can use the involved extremity for self care, grasping, and holding but has difficulty with digital dexterity.
- Can use the involved extremity for self care, can grasp and hold objects with difficulty, but has no digital dexterity.
- Can use the involved extremity, but has difficulty with self-care activities.
- Cannot use the involved extremity for self care.

j. **Chronic**

Specify whether due to the accepted condition or direct medical sequela the worker is significantly limited in the repetitive use of the hand, wrist, forearm, or arm due to a chronic and permanent medical condition.

k. **Vascular**

Use the following classifications to describe upper extremity vascular impairment. Where the residuals from the accepted condition or any direct medical sequela place the worker in one or more classes, the worker is placed in the highest class in which the worker has impairment findings.

CLASS 1: Worker experiences only transient edema and on physical examination, the findings are limited to the following:

- Loss of pulses, minimal loss of subcutaneous tissue of fingertips, calcification of arteries as detected by radiographic examination, asymptomatic dilation of arteries or veins (not requiring surgery and not resulting in curtailment of activity).
- Cold intolerance (e.g. Raynaud's phenomenon) which results in a loss of use or function that occurs on exposure to temperatures below freezing (0° Centigrade).

CLASS 2: Worker experiences any of the following:

- Intermittent pain with repetitive exertional activity.
- Persistent moderate edema incompletely controlled by elastic supports.
- Signs of vascular damage such as a healed stump of an amputated digit with evidence of persistent vascular disease.
- A healed ulcer.
- Cold intolerance (e.g. Raynaud's phenomenon) which results in a loss of use or function that occurs on exposure to temperatures below 4° Centigrade.

CLASS 3: Worker experiences any of the following:

- Intermittent pain with moderate upper extremity usage.
- Marked edema incompletely controlled by elastic supports.
- Signs of vascular damage such as a healed amputation of two or more digits with evidence of persistent vascular disease.
- Superficial ulceration.
- Cold intolerance (e.g. Raynaud's phenomenon) which results in a loss of use or function that occurs on exposure to temperatures below 10° Centigrade.

CLASS 4: Worker experiences any of the following:

- Intermittent pain upon mild upper extremity usage.
- Marked edema that cannot be controlled by elastic supports.
- Signs of vascular damage such as an amputation at or above the wrist with evidence of persistent vascular disease.
- Persistent widespread or deep ulceration involving one extremity.
- Cold intolerance (e.g. Raynaud's phenomenon) which results in a loss of use or function that occurs on exposure to temperatures below 15° Centigrade.

CLASS 5: Worker experiences any of the following:

- Constant and severe pain at rest.
- Signs of vascular damage involving more than one extremity such as amputation at or above the wrist, or amputation of all digits involving more than one extremity with evidence of persistent vascular disease.
- Persistent widespread deep ulceration involving more than one extremity.
- Cold intolerance (e.g., Raynaud's phenomenon) which results in a loss of use or function that occurs on exposure to temperatures below 20° Centigrade.

1. **Cold intolerance**

Address cold intolerance as follows:

- Is the cold intolerance due to Raynaud's phenomena or Raynaud's-like phenomena or another cause, such as neurological dysfunction?
- Identify the approximate temperature or above-referenced class at which the worker's cold intolerance produces loss of use or function and explain the loss of use or function.
- Specify what body areas are affected by the cold intolerance (e.g., whole hand or fingers).

7. **LOWER EXTREMITY**

Lower extremity includes femoral head to toes, but does not include pelvic bone involvement. For most lower extremity injuries, complete Form 440-4841, "Lower Extremity Range of Motion" (attached) in conjunction with the closing examination report.

a. **Amputation**

Great toe - indicate the most proximal level of amputation either at the interphalangeal joint or the metatarsophalangeal joint.

Second through fifth toes - indicate the most proximal level of amputation either at the distal interphalangeal, the proximal interphalangeal, or the metatarsophalangeal joint.

Foot - indicate the most proximal level of amputation either at or above the tibio-talar joint but below the knee joint, the tarsometatarsal joints, the mid-metatarsal, or the metatarsal area.

b. **Range of motion**

Provide active (unassisted) ranges of motion in the following body parts expressed in retained degrees:

- Great toes - plantar flexion of the interphalangeal, and dorsiflexion and plantar flexion of the metatarsophalangeal joints of both.
- Second through fifth toes - dorsiflexion and plantar flexion in the metatarsophalangeal joints.
- Ankles - inversion, eversion, dorsiflexion, and plantar flexion.
- Knees - flexion and extension.
- Hips - flexion, extension, abduction, adduction, and internal and external rotation.

If the condition has resulted in ankylosis of the joint, provide the plane of motion (e.g., flexion and angle of degree of fixation).

Determine whether the contralateral joint has a history of injury or disease, if none provide contralateral comparison of the contralateral joint.

c. **Sensation loss**

Describe sensation loss or alteration of sensation/hypersensitivity in the plantar surface of the toe and foot. Identify the area of sensory loss or alteration, and categorize as partial loss or alteration of sensation, or total loss or severe alteration of sensation.

d. **Leg length**

Describe leg length discrepancies in inches, as measured from the anterior superior iliac spine to the distal medial malleolus.

e. **Knee/ankle joint instability**

Describe instability of the knee or ankle due to ligamentous injury as mild (Grade I), moderate (Grade II), or severe (Grade III) with identification of the specific ligament involved.

Knee joint instability is further defined as:

- Grade I or 1+ (1 to 5mm)
- Grade II or 2+ (6 to 10mm)
- Grade III or 3+ (greater than 10mm)

f. **Knee/leg deformity**

Describe varus or valgus deformity of the knee by degrees of angulation.

Describe angulation or malalignment (rotational deformity) resulting from a tibial shaft fracture as:

- Mild (10 to 14 degrees)
- Moderate (15 to 19 degrees)
- Severe (20 degrees or greater)

Specify whether rocker bottom deformity of the foot has occurred.

g. **Vascular**

Use the following classifications to describe lower extremity vascular impairment. Where the residuals from the accepted condition or any direct medical sequela place the worker in one or more classes, the worker is placed in the highest class in which the worker has impairment findings.

CLASS 1: Worker demonstrates any of the following:

- Loss of pulses in the foot
- Minimal loss of subcutaneous tissue
- Calcification of the arteries (as revealed by x-ray)
- Transient edema

CLASS 2: Worker suffers from any of the following:

- Limping due to intermittent claudication that occurs when walking at least 100 yards.
- Vascular damage as evidenced by a healed painless stump of a single amputated toe, with evidence of chronic vascular dysfunction or a healed ulcer.
- Persistent moderate edema that is only partially controlled by support hose.

CLASS 3: Worker suffers from any of the following:

- Limping due to intermittent claudication when walking as little as 25 yards and no more than 100 yards.
- Vascular damage as evidenced by healed amputation stumps of two or more toes on one foot, with evidence of chronic vascular dysfunction or persistent superficial ulcers on one leg.

- Obvious severe edema that is only partially controlled by support hose.

CLASS 4: Worker suffers from any of the following:

- Limping due to intermittent claudication after walking less than 25 yards.
- Intermittent pain in the legs due to intermittent claudication when at rest.
- Vascular damage, as evidenced by amputation at or above the ankle on one leg; or amputation of two or more toes on both feet with evidence of chronic vascular dysfunction; or widespread or deep ulcers on one leg.
- Obvious severe edema that cannot be controlled with support hose.

CLASS 5: Worker suffers from either of the following:

- Constant severe pain due to claudication at rest.
- Vascular damage, as evidenced by amputations at or above the ankles of both legs; or amputation of all toes on both feet with evidence of persistent vascular dysfunction; or of persistent, widespread, or deep ulcerations on both legs.

h. Strength loss

Identify injuries to unilateral spinal nerve roots resulting in strength loss in the leg or foot according to the specific nerve root (L-2 through S-1) that innervates the weakened muscle.

Identify injuries to peripheral nerves resulting in strength loss in the lower extremities according to both the peripheral nerve and affected muscle demonstrating decreased strength.

Describe muscle strength loss in the 0-5/5 method as specified in the *GENERAL PRINCIPLES OF MEASURING AND REPORTING IMPAIRMENT AND RESIDUAL FUNCTIONAL CAPACITY* (see section 5). Explain in detail the etiology of the strength loss and provide a contralateral comparison.

i. Motor loss

For motor loss in any part of the leg due to brain or spinal cord damage, select the following statement that best describes the worker's ability:

- Can rise to a standing position and can walk but has difficulty with elevations, grades, steps, and distances.
- Can rise to a standing position and can walk with difficulty but is limited to level surfaces. There is variability as to the distance the worker can walk.
- Can rise to a standing position and can maintain it with difficulty but cannot walk without assistance.
- Cannot stand without a prosthesis, the help of others, or mechanical support.

j. Chondromalacia/degenerative joint disease/arthritis

Specify the grade of chondromalacia and describe the extent of any arthritis or degenerative joint disease present in the knee or ankle. If a diagnosis of Grade IV chondromalacia is made, indicate whether any of the following symptoms are present:

- Secondary strength loss
- Chronic effusion
- Varus or valgus deformity in degrees

k. Chronic

Specify whether due to the accepted condition or direct medical sequela the worker is significantly limited in the repetitive use of the foot, ankle, or leg due to a chronic and permanent medical condition.

l. Standing/walking limitations

Specify whether the worker cannot be on his or her feet for more than two hours in an 8-hour period, due to the accepted condition and any direct medical sequelae.

8. DERMATOLOGICAL CONDITIONS OF THE EXTREMITIES

Use the following classifications to describe any upper or lower extremity dermatological impairment findings and identify the affected body part. The worker may or may not show signs or symptoms of skin disorder upon examination. Where the residuals from the accepted condition or any direct medical sequela place the worker in one or more classes, the worker is placed in the highest class in which the worker has impairment findings.

CLASS 1: Treatment results in no more than minimal limitation in the performance of ADL, although exposure to physical or chemical agents may temporarily increase limitations.

CLASS 2: Requires intermittent treatment and prescribed examinations, and the worker has some limitations in the performance of ADL.

CLASS 3: Requires regularly prescribed examinations; continuous treatments are required; and the worker has many limitations in the performance of ADL.

CLASS 4: Continuous prescribed treatments are required. The treatment may include periodically having the worker stay home or admitting the worker to a care facility, and the worker has many limitations in the performance of ADL.

CLASS 5: Continuous prescribed treatment is required. The treatment necessitates having the worker stay home or be permanently admitted to a care facility, and the worker has severe limitations in the performance of ADL.

9. HEARING LOSS

The audiogram used to evaluate a worker's hearing impairment is to be performed after the worker has been removed from significant noise for at least 14 consecutive hours. The audiogram will show the highest level of retained hearing on air conductive frequencies at 500, 1000, 2000, 3000, 4000, and 6000 Hz.

The audiogram must be based on the American National Standards Institute S3.6 (1989).

When there are permanent disturbances of the vestibular mechanism resulting in dysequilibrium, select one of the following statements to describe the effect on the worker.

- ADL are performed without assistance.
- ADL can be performed without assistance and the worker is unable to operate a motor vehicle.
- ADL cannot be performed without assistance.
- ADL cannot be performed without assistance and confinement is necessary.

Identify whether the worker suffers from tinnitus which requires job modification.

10. VISUAL LOSS

Use Form 440-2312, "Visual Impairment" (attached) to report visual impairment.

a. Acuity

Report the central visual acuity for each eye, both distance and near vision. Acuity is measured with **best** correction, utilizing the lenses recommended by a worker's medical provider. Report near vision using the Snellen 14/14, Revised Jaeger Standard, or American Point-type.

For distance acuity less than 20/400, report the ability or inability to count fingers at four feet.

Note whether the eye has a natural or prosthetic implanted lens or is aphakic.

b. Field deficit

For visual field loss, measure the visual field for each eye using a Goldmann perimeter with a III/4e stimulus. Report the results on either a perimetric chart which indicates the extent of retained vision for each of the eight standard 45 degree meridians out to 90°, or a monocular

Esterman Grid.

c. **Abnormal ocular motility resulting in binocular diplopia**

Report in degrees at which diplopia occurs along the standard eight 45° meridians.

d. **Additional ocular disturbance**

When stereopsis, glare disturbance, or monocular diplopia are present, name the condition and state whether the condition is mild, moderate, or severe.

e. **Lacrimal system**

Refer to *INTEGUMENTARY AND LACRIMAL SYSTEMS* (see section 23) and report applicable findings.

11. SHOULDER

Use Form 440-4842, "Shoulder Range of Motion" (attached) to report shoulder impairment.

a. **Range of motion**

Provide active (unassisted) ranges of motion expressed in retained degrees of forward elevation, backward elevation, internal rotation (with arm in abduction), external rotation, abduction, and adduction of both shoulders.

If the condition has resulted in ankylosis of the joint, provide the plane of motion (e.g., flexion and the angle degree of fixation).

Specify whether the contralateral joint has a history of injury or disease.

b. **Strength loss**

For shoulder loss of strength (unrelated to spinal nerve root or brachial plexus injury), identify both the peripheral nerve and affected muscle demonstrating decreased strength. Describe muscle strength loss in the 0-5/5 method as specified in the *GENERAL PRINCIPLES OF MEASURING AND REPORTING IMPAIRMENT AND RESIDUAL FUNCTIONAL CAPACITY* (see section 5). Also, explain in detail the etiology of the strength loss and provide a contralateral comparison.

c. **Dislocation**

Describe any chronic shoulder dislocation or diastasis of a sternal joint that necessitates a reduction in the strength/lifting capabilities of the worker as compared to the job-at-injury capabilities.

d. **Chronic**

Specify whether due to the accepted condition or direct medical sequela the worker is significantly limited in the repetitive use of the involved shoulder due to a chronic and permanent medical condition.

12. HIP (including pelvis)

a. **Range of motion**

Provide active (unassisted) range of motion expressed in retained degrees of forward flexion, backward extension, internal rotation, external rotation, abduction, and adduction of both hips.

If the condition has resulted in ankylosis of the joint, provide the plane of motion (e.g., forward elevation and the angle degree of fixation).

Specify whether the contralateral joint has a history of injury or disease.

Specify whether reduced ranges of motion are a residual of pelvic or acetabular involvement.

- b. **Strength loss**
See *LOWER EXTREMITIES* section 7.
- c. **Displaced fracture**
For fractures of the hip or pelvic structures, provide a description of the residual displacement or deformity after the fracture has healed. For hip fractures, also describe leg length discrepancies in inches, as measured from the anterior superior iliac spine to the distal medial malleolus.
- d. **Chronic**
Specify whether due to the accepted condition or direct medical sequela the worker is significantly limited in the repetitive use of the involved hip due to a chronic and permanent medical condition.

13. SPINE

- a. **Spinal fracture**
For compression fractures, identify each fractured vertebral body and provide the percentage of compression.

For fractures to the posterior elements, identify each vertebra affected and the fracture site (e.g., spinous process, pedicles, laminae, articular processes, or transverse processes).
- b. **Strength loss**
See *UPPER and LOWER EXTREMITY* sections 6 and 7.
- c. **Range of motion**
Provide active (unassisted) ranges of motion in the affected spinal region as measured by inclinometer and expressed in retained degrees (see *GENERAL PRINCIPLES OF MEASURING AND REPORTING IMPAIRMENT AND RESIDUAL FUNCTIONAL CAPACITY* in section 5):
 - True cervical flexion, extension, right/left lateral flexion, and right/left rotation
 - True thoracic flexion and right/left rotation
 - True lumbar flexion, extension, and right/left flexion
Provide a statement regarding the validity of the findings. If the findings are considered valid, but the validity criteria described in the bulletin have not been met, provide a written rationale based on sound medical principles explaining why the findings are considered valid.

Complete the specific spinal range of motion form (attached) for closing examinations.
- d. **Sensation loss**
See *UPPER and LOWER EXTREMITY* sections 6 and 7.
- e. **Chronic**
Specify whether due to the accepted condition or direct medical sequela the worker is significantly limited in the repetitive use of the spinal area due to a chronic and permanent medical condition.

14. ABDOMEN

When there is a permanent and palpable defect in the supporting structures of the abdominal wall, and the residuals from the accepted condition or any direct medical sequela place the worker in one or more classes, the worker is placed in the highest class in which the worker has impairment findings.

Class 1: 5% for a slight protrusion at the site of the defect with increased abdominal pressure that is readily reducible; or occasional mild discomfort at the site of the defect, which limits the worker in one or more activities of daily living (ADL).

Class 2: 15% for frequent or persistent protrusion at the site of the defect with increased pressure that is manually reducible; or frequent discomfort, which limits the worker from heavy lifting, but does not hamper some ADL.

Class 3: 25% for persistent, irreducible, or irreparable protrusion at the site of the defect; and there is a limitation in the worker's ADL.

15. **CARDIOVASCULAR SYSTEM**

Cardiovascular system impairments include valvular heart disease, coronary heart disease, hypertensive cardiovascular disease, cardiomyopathy, pericardial disease, or cardiac arrhythmias. Summarize findings and report the following:

- Results of a recent thorough cardiovascular examination, including subjective and objective data.
- Current treatment plan, including pharmacological therapy and dietary restrictions.
- Worker's current ability to perform the ADL (specify level of functional activity).
- Primary and secondary diagnoses.

16. **RESPIRATORY SYSTEM**

a. **Definitions**

In the context of workers' compensation, the following definitions apply:

- FVC is forced vital capacity.
- FEV1 is forced expiratory volume in the first second.
- Dco refers to diffusing capacity of carbon monoxide.
- VO2 Max is measured exercise capacity.

b. **Lung function**

Where the residuals from the accepted condition or any direct medical sequela place the worker in one or more classes, the worker is placed in the highest class in which the worker has impairment findings.

CLASS 1: FVC greater than or equal to 80% of predicted, and FEV1 greater than or equal to 80% of predicted, and FEV1/FVC greater than or equal to 70% and Dco greater than or equal to 80% of predicted; or VO2 Max greater than 25ml/(kg x min).

CLASS 2: FVC between 60% and 79% of predicted, or FEV1 between 60% and 79% of predicted, or FEV1/FVC between 60% and 69%, or Dco between 60% and 79% of predicted, or VO2 Max greater than or equal to 20 ml/(kg x min) and less than or equal to 25 ml/(kg x min).

CLASS 3: FVC between 51% and 59% of predicted, or FEV1 between 41% and 59% of predicted, or FEV1/FVC between 41% and 59%, or Dco between 41% and 59% of predicted, or VO2 Max greater than or equal to 15 ml/(kg x min) and less than 20 ml/kg x min).

CLASS 4: FVC less than or equal to 50% of predicted, or FEV1 less than or equal to 40% of predicted, or FEV1/FVC less than or equal to 40%, or Dco less than or equal to 40% of predicted, or VO2 Max less than 15 ml/(kg x min).

c. **Lung cancer**

Re-evaluate lung cancer one year after the diagnosis. If the individual is free of all evidence of tumor, then determine current pulmonary function using the criteria presented under "b" above.

d. **Asthma (ROAD)**

Determine reversible obstructive airway disease due to compensable occupational disease or illness using the criteria presented under "b" above. Perform three successive tests at least one week apart and when the worker is receiving optimal medical therapy.

e. **Allergic respiratory responses**

Categorize allergic respiratory response to physical, chemical, or biological agents as follows:

- A nuisance but does not prevent most regular work-related activities.
- Prevents some regular work-related activities.
- Prevents most regular work-related activities.

Note: Methacholine inhalation testing is permitted at the discretion of the medical provider, provided such testing does not leave the worker at risk.

f. **Air passage defect**

Categorize air passage defects (e.g., partial obstruction of the oropharynx, laryngopharynx, upper trachea (to 4th ring), lower trachea, bronchi, or complete obstruction of the nose (bilaterally) or nasopharynx). Where the residuals from the accepted condition or any direct medical sequela place the worker in one or more classes, the worker is placed in the highest class in which the worker has impairment findings.

CLASS 1: Dyspnea does not occur at rest. Dyspnea is not produced by walking or climbing stairs freely, performance of other usual ADL, stress, prolonged exertion, hurrying, hill climbing, recreation requiring intensive effort, or similar activity. Examination reveals one or more of the following: Partial obstruction of oropharynx, laryngopharynx, larynx, upper trachea (to 4th ring), lower trachea, bronchi, or complete obstruction of the nose (bilateral) or nasopharynx.

CLASS 2: Dyspnea does not occur at rest. Dyspnea is not produced by walking freely on the level, climbing at least one flight of ordinary stairs, or the performance of other usual ADL. Dyspnea is produced by stress, prolonged exertion, hurrying, hill climbing, recreation (except sedentary forms), or similar activity. Examination reveals one or more of the following: Partial obstruction of oropharynx, laryngopharynx, larynx, upper trachea (to 4th ring), lower trachea, bronchi, or complete obstruction of the nose (bilateral) or nasopharynx.

CLASS 3: Dyspnea does not occur at rest. Dyspnea is produced by walking more than one or two blocks on the level or climbing one flight of ordinary stairs even with periods of rest, performance of other usual ADL, stress, hurrying, hill climbing, recreation, or similar activity. Examination reveals one or more of the following: Partial obstruction of oropharynx, laryngopharynx, larynx, upper trachea (to 4th ring), lower trachea, or bronchi.

CLASS 4: Dyspnea occurs at rest, although worker is not necessarily bedridden. Dyspnea is aggravated by the performance of any of the usual ADL beyond personal cleansing, dressing, grooming, or its equivalent. Examination reveals one or more of the following: Partial obstruction of oropharynx, laryngopharynx, larynx, upper trachea (to 4th ring), lower trachea, or bronchi.

g. **Lobectomy**

Determine residual impairment from a lobectomy using the criteria presented under “b” above.

h. **Impaired ability to speak**

Assess impaired ability to speak in terms of:

- Audibility - ability to speak loudly enough to be heard.
- Intelligibility – ability to articulate well enough to be understood.
- Functional efficiency – ability to produce a serviceably fast rate of speech and to sustain it over a useful period of time.

Using the factors above, identify the category below that best describes the worker’s impaired ability to speak. Where the residuals from the accepted condition or any direct medical sequela place the worker in one or more classes, the worker is placed in the highest class in which the worker has impairment findings.

CLASS 1: Produces speech of sufficient intensity and articular quality to meet most of the needs of everyday speech communication; some hesitation or slowness of speech may exist; certain phonetic units may be difficult or impossible to produce; or listeners may require the speaker to repeat.

CLASS 2: Produces speech of sufficient intensity and articular quality to meet many of the needs of every day speech communication; speech may be discontinuous, hesitant or slow; can be understood by a stranger but may have numerous inaccuracies; or may have difficulty being heard in loud places.

CLASS 3: Produces speech of sufficient intensity and articular quality to meet some of the needs of everyday speech communication; often consecutive speech can only be sustained for brief periods; can converse with family and friends but may not be understood by strangers; may often be asked to repeat; has difficulty being heard in loud places; or voice tires rapidly and tends to become inaudible after a few seconds.

CLASS 4: Produces speech of sufficient intensity and articular quality to meet few of the needs of everyday speech communication; consecutive speech limited to single words or short phrases; speech is labored and impracticably slow; can produce some phonetic units but may use approximations that are unintelligible or out of context; or may be able to whisper audibly but has no voice.

CLASS 5: Complete inability to meet the needs of every day speech communication.

17. CRANIAL NERVES/BRAIN

a. Cranial nerves

First cranial nerve (Olfactory): Specify whether a complete inability to detect odors or an alteration of the sense of smell has occurred.

Second cranial nerve (Optic), Third cranial nerve (Oculomotor), Fourth cranial nerve (Trochlear), and Sixth cranial nerve (Abducens): Refer to *VISUAL LOSS* (see section 10) and report applicable findings.

Fifth cranial nerve (Trigeminal): Indicate whether there is a loss or alteration of sensation in the Trigeminal distribution on one or both sides, and whether motor function in mastication has been effected.

Seventh cranial nerve (Facial): Indicate whether there is a loss or alteration of the sense of taste. Also, specify whether motor loss on one or both sides of the face is noted, and whether such loss is complete or partial.

Eighth cranial nerve (Auditory): Permanent disturbances of the vestibular mechanism resulting in dysequilibrium, is categorized according to their impact on ADL as follows:

- ADL are performed without assistance.
- ADL are performed without assistance, but the worker is unable to operate a motor vehicle.
- ADL cannot be performed without assistance.
- ADL cannot be performed without assistance and confinement is necessary.

Identify whether the worker suffers from tinnitus which requires job modification.

Ninth cranial nerve (Glossopharyngeal), tenth cranial nerve (Vagus), eleventh cranial nerve (Cranial Accessory), and Twelfth cranial nerve (Hypoglossal): Impairment in mastication and deglutition are categorized according to the following criteria:

- Diet is limited to semi-solid or soft foods.
- Diet is limited to liquid foods.

- Eating requires tube feeding or gastrostomy.

When injury to the ninth, tenth, eleventh and twelfth cranial nerves results in speech impairment, refer to *RESPIRATORY SYSTEM* (see section 16) and report the applicable findings.

b. **Headaches**

Describe headaches in terms of:

- Frequency and severity
- Disruption of ADL
- Adjustments in work activity
- Need for prescribed medication or therapy

c. **Minimal head injury**

For minimal head injuries (e.g., contusions, abrasions, concussions without loss of consciousness), perform a cranial nerve examination and an informal cognitive assessment. Describe any findings of impairment based on these tests.

d. **Brain injury**

For brain injuries resulting in permanent impairment, use the criteria listed below based on the *Rancho Los Amigos Scale, Revised*. Before applying the *Rancho Los Amigos Scale, Revised*, thoroughly review the following points.

- The existence and severity of the claimed residuals and impairments must be objectively determined by observation, examination, or a preponderance of evidence, and must be within the range reasonably considered to be possible (given the nature of the original injury), based upon a preponderance of medical opinion.
- The residuals must be a direct result of organic injury to the brain. For example, emotional or behavioral disturbances must result directly from injury to the brain. Emotional disturbances which are reactive to other residuals, but which are not directly organically based, such as frustration or depressed mood about memory deficits or work limitations, are not included under these criteria and must be addressed separately.
- The distinctions between classes are intended to reflect the impact of the residuals on two domains: impairment of ADL and impairment of employment capacity.
- Where the residuals from the accepted condition or any direct medical sequela place the worker in one or more classes, the worker is placed in the highest class in which the worker has impairment findings.
- As used in this bulletin, episodic neurologic disorder refers to any type of seizure disorder, vestibular disorder including disturbances of balance or sensorimotor integration, neuro-ophthalmologic or oculomotor visual disorder (such as diplopia), or headaches.

CLASS 1: The fundamental intent of the class is as follows: (1) ADL: The worker has “nuisance” level residual effects of head injury, which may slightly impact the manner in which ADL are performed, or the subjective ease of performance, but the worker remains fully independent in all ADL; (2) Work capacity: The “nuisance” level residuals may impact the manner in which the worker performs work tasks, or the subjective ease of performance, but the worker is not materially limited in the types of work which can be performed, as compared with pre-injury abilities.

Cognition: Functions at the equivalent of *Rancho Los Amigos Scale, Revised*, level of 9 or 10 (e.g. is alert and oriented, behavior is appropriate, and is able to recall and integrate past and recent events). Independent in ADL. If there are cognitive or memory deficits, they are

no more than minimal or “nuisance” level, and do not materially impair ADL or the type of work the worker may perform.

Language: Language deficit is no more than minimal (e.g., language comprehension or production might be less than normal, but it is adequate for daily living).

Emotions/behavior: Emotional disturbances or personality changes are minimal and occur only transiently during stressful situations and events.

Sleep/alertness: Episodic sleep disturbances, fatigue, or lethargy are minimal (e.g., any sleeping irregularity, fatigue, or lethargy does not interfere with daily living).

Episodic neurologic disorder: Episodic neurologic disorder is completely controlled and does not interfere with daily living.

CLASS 2: The fundamental intent of the class is as follows: (1) ADL: The worker is independent in all ADL, but may require significant adaptations or modifications in normal patterns or means of ADL in order to achieve ADL independence; (2) Work capacity: The residuals result in some type of limitation on the worker’s employment capacity, restricting the range of employment options that were previously available to the worker, but the worker remains employable in most jobs for which he or she was qualified prior to injury.

Cognition: Functions at the equivalent of *Rancho Los Amigos Scale, Revised*, level of 8 (e.g., is alert and oriented, behavior is appropriate, and is able to recall and integrate past and recent events). Performs all ADL independently, but due to mild cognitive or memory deficits, may need to use compensatory strategies or devices such as multiple written reminders, alarms, or digital devices; or may sometimes require more time than normal to complete ADL; or may use occasional reminders, prompts, or minor assistance by others as a compensatory strategy, but is not dependent on others. For example, a spouse may be asked to double-check financial transactions for errors, but the worker can manage all transactions independently if necessary, and is not fundamentally dependent on the spouse for this activity. The cognitive or memory deficits limit ability to perform some types of jobs. (For example, mild attention deficits may preclude worker in a busy, multi-tasking environment, but the worker is still employable.)

Language: Language deficit is mild. (For example, language comprehension or production might occasionally interfere with daily living or limit ability to perform some types of jobs, but the worker is still employable.)

Emotions/Behavior: Emotional or behavioral disturbances or personality changes are mild. While they may be disproportionate to the stress or situation, they do not significantly impair ability to relate to others or to live with others. They may limit ability to perform some types of jobs. (For example, irritability may preclude jobs with high public contact, but the worker is still employable.)

Sleep/Alertness: Episodic sleep disturbances, fatigue, or lethargy are mild (e.g., any sleeping irregularity, fatigue, or lethargy occasionally interferes with daily living). Sleep disturbance, or mild or episodic fatigue or lethargy, may limit ability to perform some types of jobs. (For example, the worker may not be able to perform shift work or commercial driving, but is still employable.)

Episodic neurologic disorder: Any episodic neurologic disorder is not completely controlled and results in limits in ADL performance or types of work that may be performed, but is still independent in ADL and is employable. (For example, headaches may intermittently interfere with daily living, diplopia that worsens with fatigue may cause driving restriction, vestibular symptoms may limit ability to operate industrial machinery, or cause the worker to avoid heights.)

CLASS 3: The fundamental intent of the class is as follows: (1) ADL: The worker is not completely independent in all ADL and requires some type of supervision, assistance, or guidance from another person at some times for some aspects of ADL; (2) Work capacity: The residuals result in major limitations on the worker's employment capacity with major restrictions or limitations on the worker's range of employment options.

Cognition: Functions at the equivalent of *Rancho Los Amigos Scale, Revised*, level of 7 (e.g., is alert and oriented, behavior is appropriate but has mild-to-moderate impaired judgment or mild-to-moderate functionally significant cognitive or memory deficits). The judgment, cognitive, or memory deficits result in impairment sufficient to regularly require assistance or supervision in order to perform some ADL. The deficits restrict the worker to a limited range of jobs at a level significantly below pre-injury employment capacity.

Language: Language deficit is mild to moderate (e.g., language comprehension or production deficits frequently interfere with ADL or restrict the worker to a limited range of jobs significantly below pre-injury employment capacity).

Emotions/behavior: Emotional or behavioral disturbances or personality changes are moderate, disproportionate to the stress or situation, are present at all times, and significantly impair ability to relate to others or to live with others. The disturbances restrict the worker to a limited range of jobs significantly below pre-injury employment capacity.

Sleep/alertness: Episodic sleep disturbances, fatigue, or lethargy are moderate. They frequently interfere with daily living, or restrict the worker to a limited range of jobs significantly below pre-injury employment capacity.

Episodic neurologic disorder: If there is an episodic neurologic disorder, it is not completely controlled. It markedly interferes with daily living. The worker cannot operate industrial machinery and is restricted to a limited range of jobs at a level significantly below pre-injury employment capacity.

CLASS 4: The fundamental intent of the class is as follows: (1) ADL: The worker is basically dependent on others for most aspects of ADL, although the worker may not need direct supervision at all times; (2) Work capacity: The worker is incapable of competitive employment and can work, if at all, only in a sheltered setting.

Cognition: Functions at the equivalent of *Rancho Los Amigos Scale, Revised*, level of 6 (e.g., has impaired judgment or significant memory deficit such that the worker needs assistance and supervision to perform most ADL and can work only in a sheltered setting).

Language: Language deficit is moderate (e.g., language comprehension is often impaired or language production is often inappropriate or unintelligible).

Emotions/behavior: Emotional or behavioral disturbances or personality changes are moderate to severe, disproportionate to the stress or situation, are present at all times, require the worker to be supervised, or seriously limit ability to live with others. The worker can work, if at all, only in a sheltered setting.

Sleep/alertness: Episodic sleep disturbances, fatigue, or lethargy are moderate-severe (e.g., they require supervision for daily living). The worker can work, if at all, only in a sheltered setting.

Episodic neurologic disorder: If there is an episodic neurologic disorder, it is of such severity and constancy that activities have to be limited and supervised. Needs to live in a supervised setting such as a foster home, care facility, or supervised semi-independent residence.

CLASS 5: Functions at the equivalent of *Rancho Los Amigos Scale, Revised*, level of 4-5 (e.g., behavior is inappropriate, is confused, not reliably oriented to time and place; may be agitated and has a severe memory deficit) and requires assistance and supervision to perform all ADL. Total supervision is required. Incapable of any employment.

CLASS 6: Functions at the equivalent of *Rancho Los Amigos Scale, Revised*, level of 1-3. Comatose or responses to stimuli are localized, inconsistent, or delayed.

NOTE: For the purpose of this section, the *Rancho Los Amigos, Revised* levels are based upon the *Eight States Levels of Cognitive Recovery* developed at the Rancho Los Amigos Hospital and co-authored by Chris Hagen, Ph.D., Danese Malkumus, M.A., and Patricia Durham, M.S., in 1972. These levels were revised by Danese Malkumus, M.A., and Kathryn Standenip, O.T.R., in 1974, revised by Chris Hagen, Ph.D., in 1999 to include ten levels, referred to as Rancho-R.

18. SPINAL CORD

Classify spinal cord injuries involving body areas other than the upper and lower extremities as follows:

CLASS 1: Spinal cord damage but is able to carry out the ADL.

CLASS 2: Paraplegic and requires assistive measures or devices for any of the ADL.

CLASS 3: Quadriplegic and requires assistive measures or devices for any of the ADL.

CLASS 4: Paraplegic or quadriplegic and requires the assistance of another person for any of the ADL.

CLASS 5: Paraplegic or quadriplegic and is dependent in all of the ADL.

In addition to the above classifications, refer to the specific body area or organ system found in this bulletin where spinal cord damage has resulted in a loss of use or function. When loss of use or function occurs in the arms or legs due to spinal cord injuries, refer to the *UPPER and LOWER EXTREMITY* (see sections 6 & 7).

19. MENTAL ILLNESS

a. Report content

Perform a complete mental status examination and report any objective permanent impairment resulting from the accepted psychological/psychiatric condition only. Include the following information in your report:

- Personal and social history
- Any deficits in memory, concentration, judgment, and other cognitive functions
- Ability to adapt to ordinary activities and stresses of daily living
- Ability to avoid problems with social and personal relationships
- Ability to avoid harm to self and others
- Ongoing treatment required, if any
- Diagnosis and prognosis

b. Diagnosis of mental disorders (DSM-IV)

Use the following *Mental Illness Standards* (derived from *The Diagnostic and Statistical Manual of Mental Disorders DSM-IV (1994)*) to assign a specific class for the worker's permanent impairment. Describe permanent changes in mental function in terms of their affect on the worker's ADL as defined in OAR 436-035-0005. Additionally, describe the affect on social function and deterioration or decompensation in work or work-like settings.

c. Personality disorders

Loss of function attributable to permanent worsening of personality disorders may be stated as

impairment only if it interferes with the worker's long-term ability to adapt to the ordinary activities and stresses of daily living. Personality disorders are rated as two classes with gradations within each class based on severity. Where the residuals from the accepted condition or any direct medical sequela place the worker in one or more classes, the worker is placed in the highest class in which the worker has impairment findings.

CLASS 1: (minimal, mild, or moderate) Worker shows:

- Little self-understanding or awareness of the mental illness;
- Some problems with judgment;
- Some problems with controlling personal behavior;
- Some ability to avoid serious problems with social and personal relationships; and
- Some ability to avoid self-harm.

CLASS 2: (minimal, mild, or moderate) Worker shows:

- Considerable loss of self-control;
- Inability to learn from experience; and
- Causes harm to the community or to self.

d. **Affective, anxiety, and somatoform disorders**

Loss of function attributable to permanent symptoms of affective disorders, anxiety disorders, somatoform disorders, and chronic adjustment disorders is rated according to the following classes, with gradations within each class based on the severity of the symptom or loss of function. Where the residuals from the accepted condition or any direct medical sequela place the worker in one or more classes, the worker is placed in the highest class in which the worker has impairment findings.

CLASS 1: When one or more of the following residual symptoms are noted:

Anxiety: Require little or no treatment; are in response to a particular stress situation; produce unpleasant tension while the stress lasts; and might limit some activities.

Depressive: ADL can be carried out, but the worker might lack ambition, energy, and enthusiasm. There may be such depression-related, mentally caused physical problems as mild loss of appetite and a general feeling of being unwell.

Phobic: Phobias the worker already suffers from may come into play or new phobias may appear in a mild form.

Psychophysiological: Symptoms are temporary and in reaction to specific stress. Digestive problems are typical. Any treatment is for a short time and is not connected with any ongoing treatment. Any physical pathology is temporary and reversible. Conversion symptoms or hysterical symptoms are brief and do not occur very often. They might include some slight and limited physical problems (such as weakness or hoarseness) that quickly respond to treatment.

CLASS 2: (minimal, mild, or moderate) When one or more of the following residual symptoms or loss of functions are noted:

Anxiety: May require extended treatment. Specific symptoms may include (but are not limited to) startle reactions; indecision because of fear; fear of being alone; and insomnia. There is no loss of intellect or disturbance in thinking, concentration, or memory.

Depressive: Last for several weeks. There are disturbances in eating and sleeping patterns; loss of interest in usual activities; and moderate retardation of physical activity. There may be thought of suicide. Self-care activities and personal hygiene remain good.

Phobic: Interfere with normal activities to a mild to moderate degree. Typical reactions include (but are not limited to) a desire to remain at home; a refusal to use elevators; a refusal to go into closed rooms; and an obvious reaction of fear when confronted with a

situation that involves a superstition.

Psychophysiological: Require substantial treatment. Frequent and recurring problems with the organs get in the way of common activities. The problems may include (but are not limited to) diarrhea, chest pains, muscle spasms in the arms, legs, or along the backbone, a feeling of being smothered, and hyperventilation. There is no actual pathology in the organs or tissues. Conversion or hysterical symptoms result in periods of loss of physical function that occur more than twice a year, last for several weeks, and need treatment. Symptoms may include (but are not limited to) temporary hoarseness, temporary blindness, and temporary weakness in the arms or the legs. These problems continue to return.

CLASS 3: (minimal, mild, or moderate) When one or more of the following residual symptoms or loss of functions are noted:

Anxiety: Fear, tension, and apprehension interfere with work or the ADL. Memory and concentration decrease or become unreliable. Long-lasting periods of anxiety keep returning and interfere with personal relationships. The worker needs constant reassurance and comfort from family, friends, and coworkers.

Depressive: Include an obvious loss of interest in the usual ADL, including eating and self-care. These problems are long-lasting and result in loss of weight and an unkempt appearance. There may be retardation of physical activity, a preoccupation with suicide, and actual attempts at suicide. The worker may be extremely agitated on a frequent or constant basis.

Phobic: Existing phobias are intensified and new phobias develop. This results in bizarre and disruptive behavior. In the most serious cases, the worker may become homebound, or even room-bound. Persons in this state often carry out strange rituals that require them to be isolated or protected.

Psychophysiological: Include tissue changes in one or more body systems or organs. These may not be reversible. Typical reactions include (but are not limited to) changes in the wall of the intestine that results in constant digestive and elimination problems. Conversion or hysterical symptoms include loss of physical function that occurs often and lasts for weeks or longer. Evidence of physical change follows such events. A symptomatic period (18 months or more) is associated with advanced negative changes in the tissues and organs. These include (but are not limited to) atrophy of muscles in the legs and arms. A common symptom is general flabbiness.

e. **Psychotic disorders**

Evaluate psychotic disorders based on perception, thinking process, social behavior, and emotional control. Variations in these aspects of mental function are rated according to the following classifications with gradations within each class based on severity. Where the residuals from the accepted condition or any direct medical sequela place the worker in one or more classes, the worker is placed in the highest class in which the worker has impairment findings.

CLASS 1: (minimal, mild, or moderate)

Perception: Misinterprets conversations or events. It is common for persons with this problem to think others are talking about them or laughing at them.

Thinking process: Absent-minded, forgetful, daydreams too much, thinks slowly, has unusual thoughts that recur, or suffers from an obsession. Is aware of these problems and may show mild problems with judgment. It is also possible that the worker will have little self-understanding or understanding of the problem.

Social behavior: Small problems appear in general behavior, but do not get in the way of social or living activities. Others are not disturbed by them. May be over-reactive or

depressed or may neglect self-care and personal hygiene.

Emotional control: May be depressed and have little interest in work or life. May have an extreme feeling of well-being without reason. Controlled and productive activities are possible, but the worker is likely to be irritable and unpredictable.

CLASS 2: (minimal, mild, or moderate)

Perception: Fairly serious problems in understanding their personal surroundings. Cannot be counted on to understand the difference between daydreams, imagination, and reality. May have fantasies involving money or power, but they recognize them as fantasies. Because persons in this state are likely to be overly excited or suffering from paranoia, they are also likely to be domineering, peremptory, irritable, or suspicious.

Thinking process: The thinking process is so disturbed that persons in this state might not realize they are having mental problems. The problems might include (but are not limited to) obsessions, blocking, memory loss serious enough to affect work and personal life, confusion, powerful daydreams, or long periods of being deeply lost in thought to no set purpose.

Social behavior: Can control their social behavior if they are asked to do so. However, if left on their own, their behavior is so bizarre that others may be concerned. Such behavior might include (but is not limited to) over-activity, disarranged clothing, and talk, or gestures that neither make sense nor fit the situation.

Emotional control: Suffer a serious loss of control over their emotions. May become extremely angry for little or no reason, may cry easily, or may have an extreme feeling of well-being, causing them to talk too much and with little purpose. These behaviors interfere with living and work and cause concern in others.

CLASS 3: (minimal, mild, or moderate)

Perception: Suffer from frequent illusions and hallucinations. Following the demands of these illusions and hallucinations leads to bizarre and disruptive behavior.

Thinking process: Suffer from disturbances in thought that are obvious even to a casual observer. These include an inability to communicate clearly because of slurred speech, rambling speech, primitive language, and an absence of the ability to understand the self or the nature of the problem. Show poor judgment and openly talk about delusions without recognizing them as such.

Social behavior: Are a nuisance or a danger to others. Actions might include interfering with work and other activities, shouting, sudden inappropriate bursts of profanity, carelessness about excretory functions, threatening, and endangering others.

Emotional control: Cannot control their personal behavior. Might be very irritable and overactive or so depressed they become suicidal.

CLASS 4: Workers who belong in Class 4 usually need to be placed in a hospital or institution. Medication may help them to a certain extent.

Perception: So obsessed with hallucinations, illusions, and delusions that normal self-care is not possible. Bursts of violence may occur.

Thinking process: Communication is either very difficult or impossible. Responds almost entirely to delusions, illusions, and hallucinations. Evidence of disturbed mental processes may include (but are not limited to) severe confusion, incoherence, irrelevance, refusal to speak, creating new words, or using existing words in a new manner.

Social behavior: Personal behavior endangers both the worker and others. Poor perceptions,

confused thinking, lack of emotional control, and obsessive reaction to hallucinations, illusions, and delusions produce behavior that can result in the worker being inaccessible, suicidal, openly aggressive and assaultive, or even homicidal.

Emotional control: May have either a severe emotional disturbance in which the worker is delirious and uncontrolled or extreme depression in which the worker is silent, hostile, and self-destructive. In either case, lack of control over anger and rage might result in homicidal behavior.

20. HEMATOPOIETIC SYSTEM

a. Anemia-related

Where the residuals from the accepted condition or any direct medical sequela place the worker in one or more classes, the worker is placed in the highest class in which the worker has impairment findings.

Class 1: No complaints or evidence of disease, the usual ADL can be performed, no blood transfusion is required, and the hemoglobin level is 10-12gm/100ml.

Class 2: Complaints or evidence of disease, the usual ADL can be performed with some difficulty, no blood transfusion is required, and the hemoglobin level is 8-10gm/100ml.

Class 3: Signs and symptoms of disease, the usual ADL can be performed with difficulty and with varying amounts of assistance from others, blood transfusion of 2 to 3 units is required every 4 to 6 weeks, and the hemoglobin level is 5-8gm/100ml before transfusion.

Class 4: Signs and symptoms of disease, the usual ADL cannot be performed without assistance from others, blood transfusions of 2 to 3 units is required every 2 weeks, implying hemolysis of transfused blood, and the hemoglobin level is 5-8gm/100ml before transfusion.

b. White blood cell system

Where the residuals from the accepted condition or any direct medical sequela place the worker in one or more classes, the worker is placed in the highest class in which the worker has impairment findings.

CLASS 1: Symptoms or signs of leukocyte abnormality, no or infrequent treatment is needed, and all or most of the ADL can be performed.

CLASS 2: Symptoms or signs of leukocyte abnormality and continuous treatment is needed, but most of the ADL can be performed.

CLASS 3: Symptoms or signs of leukocyte abnormality and continuous treatment is needed, but most of the ADL can be performed with occasional assistance from others.

CLASS 4: Symptoms and signs of leukocyte abnormality, continuous treatment is needed, and continuous care is required for ADL.

c. Hemorrhagic disorders

- The extent to which ADL must be avoided.
- The need for constant endocrine therapy, or anticoagulant treatment with a vitamin K antagonist.

Note: Hemorrhagic disorders stemming from damage to other organs or body systems are to be addressed under the other organ or body system.

21. GASTROINTESTINAL AND GENITOURINARY SYSTEMS

a. Mastication and deglutition

- Diet limited to semi-solid or soft foods.

- Diet limited liquid foods.
- Eating requires tube feeding or gastrostomy.

b. **Upper digestive tract**

Upper digestive tract includes the esophagus, stomach and duodenum, small intestine, and pancreas. Where the residuals from the accepted condition or any direct medical sequela place the worker in one or more classes, the worker is placed in the highest class in which the worker has impairment findings.

CLASS 1: Symptoms or signs of organic upper digestive tract disease are present or there is anatomic loss or alteration, and

- Continuous treatment is not required, and
- Weight can be maintained at the “desirable level” (see *Desirable Weight Table* on the following page), or
- There is no sequela after surgical procedures.

CLASS 2: Symptoms and signs of organic upper digestive tract disease are present or there is anatomic loss or alteration, and

- Appropriate dietary restrictions and drugs are required for control of symptoms, signs, or nutritional deficiency, and
- Loss of weight below the “desirable weight” does not exceed 10%.

CLASS 3: Symptoms and signs of organic upper digestive tract disease are present or there is anatomic loss or alteration, and

- Appropriate dietary restrictions and drugs do not completely control symptoms, signs, or nutritional state, or
- There is 10-20% loss of weight below the “desirable weight” that is due to a disorder of the upper digestive tract.

CLASS 4: Symptoms and signs of organic upper digestive tract disease are present or there is anatomic loss or alteration, and

- Symptoms are not controlled by treatment, or
- There is greater than a 20% loss of weight below the “desirable weight” that is due to a disorder of the upper digestive tract.

DESIRABLE WEIGHTS BY SEX, HEIGHT AND BODY BUILD

The weight charts include 5 lb clothing for men, 3 lb clothing for women, and shoes with 1” heels for both

MEN

HEIGHT (inches)	WEIGHT (pounds) SMALL FRAME	WEIGHT (pounds) MEDIUM FRAME	WEIGHT (pounds) LARGE FRAME
62	128-134	131-141	138-150
63	130-136	133-143	140-153
64	132-138	135-145	142-156
65	134-140	137-148	144-160
66	136-142	139-151	146-164
67	138-145	142-154	149-168
68	140-148	145-157	152-172
69	142-151	148-160	155-176
70	144-154	151-163	158-180
71	146-157	154-166	161-184
72	149-160	157-170	164-188
73	152-164	160-174	168-192
74	155-168	164-178	172-197
75	158-172	167-182	176-202
76	162-176	171-187	181-207

WOMEN

HEIGHT (inches)	WEIGHT (pounds) SMALL FRAME	WEIGHT (pounds) MEDIUM FRAME	WEIGHT (pounds) LARGE FRAME
58	102-111	109-121	118-131
59	103-113	111-123	120-134
60	104-115	113-126	122-137
61	106-118	115-129	125-140
62	108-121	118-132	128-143
63	111-124	121-135	131-147
64	114-127	124-138	134-151
65	117-130	127-141	137-155
66	120-133	130-144	140-159
67	123-136	133-147	143-163
68	126-139	136-150	146-167
69	129-142	139-153	149-170
70	132-145	142-156	152-173
71	135-148	145-159	155-176
72	138-151	148-162	158-179

c. **Colon and rectal**

Where the residuals from the accepted condition or any direct medical sequela place the worker in one or more classes, the worker is placed in the highest class in which the worker has impairment findings.

CLASS 1: Signs and symptoms of colonic or rectal disease are infrequent and of brief duration, and

- Limitation of activities, special diet or medication is not required, and
- No systemic manifestations are present and weight and nutritional state can be maintained at a desirable level, or
- There is no sequela after surgical procedures.

CLASS 2: There is objective evidence of colonic or rectal disease or anatomic loss or alteration, and all the following:

- There are mild gastrointestinal symptoms with occasional disturbances of bowel function, accompanied by moderate pain.
- Minimal restriction of diet or mild symptomatic therapy may be necessary.
- No impairment of nutrition results.

CLASS 3: There is objective evidence of colonic or rectal disease or anatomic loss or alteration, and all the following:

- There are moderate to severe exacerbations with disturbance of bowel habit accompanied by periodic or continual pain.
- Restriction of activity, special diet, and drugs are required during attacks.
- There are constitutional manifestations (fever, anemia, or weight loss).

CLASS 4: There is objective evidence of colonic and or rectal disease or anatomic loss or alteration, and all the following:

- There are persistent disturbances of bowel function present at rest with severe persistent pain.
- Complete limitation of activity, continued restriction in diet, and medication do not entirely control the symptoms.
- There are constitutional manifestations (fever, weight loss, or anemia) present.

d. **Anal**

Where the residuals from the accepted condition or any direct medical sequela place the worker in one or more classes, the worker is placed in the highest class in which the worker has impairment findings.

CLASS 1: Signs of organic anal disease are present or there is anatomic loss or alteration, or

- There is mild incontinence involving gas or liquid stool, or
- Anal symptoms are mild, intermittent, and controlled by treatment.

CLASS 2: Signs of organic anal disease are present or there is anatomic loss or alteration, and

- Moderate but partial fecal incontinence is present requiring continual treatment, or
- Continual anal symptoms are present and incompletely controlled by treatment.

CLASS 3: Signs of organic anal disease are present and there is anatomic loss or alteration, and

- Complete fecal incontinence is present, or
- Signs of organic anal disease are present and severe anal symptoms unresponsive or not amenable to therapy are present.

e. **Liver**

Where the residuals from the accepted condition or any direct medical sequela place the worker in one or more classes, the worker is placed in the highest class in which the worker has impairment findings.

CLASS 1: There is objective evidence of persistent liver disease even though no symptoms of liver disease are present; and no history of ascites, jaundice, or bleeding esophageal varices within three years, and

- Nutrition and strength are good, and
- Biochemical studies indicate minimal disturbance in liver function, or
- Primary disorders of bilirubin metabolism are present.

CLASS 2: There is objective evidence of chronic liver disease even though no symptoms of liver disease are present; and no history of ascites, jaundice, or bleeding esophageal varices within three years, and

- Nutrition and strength are good, and
- Biochemical studies indicate more severe liver damage than Class 1.

CLASS 3: There is objective evidence of progressive chronic liver disease, or history of jaundice, ascites, or bleeding esophageal or gastric varices within the past year, and

- Nutrition and strength may be affected, or
- There is intermittent hepatic encephalopathy.

CLASS 4: There is objective evidence of progressive chronic liver disease, or persistent ascites or persistent jaundice or bleeding esophageal or gastric varices, with central nervous system manifestations of hepatic insufficiency, and nutritional state is poor.

f. **Biliary tract**

Where the residuals from the accepted condition or any direct medical sequela place the worker in one or more classes, the worker is placed in the highest class in which the worker has impairment findings.

CLASS 1: Occasional episode of biliary tract dysfunction.

CLASS 2: Recurrent biliary tract impairment irrespective of treatment.

CLASS 3: Irreparable obstruction of the bile tract with recurrent cholangitis.

CLASS 4: Persistent jaundice and progressive liver disease due to obstruction of the common bile duct.

h. **Upper urinary tract**

Where the residuals from the accepted condition or any direct medical sequela place the worker in one or more classes, the worker is placed in the highest class in which the worker has impairment findings.

CLASS 1: Diminution is present as evidenced by creatinine clearance of 75 to 90 liters/24 hr (52 to 62.5 ml/min), or PSP excretion of 15% to 20% in 15 minutes, or intermittent symptoms and signs of upper urinary tract dysfunction are present that do not require continuous treatment or surveillance.

CLASS 2: Diminution is present as evidenced by creatinine clearance of 60 to 75 liters/24 hr (42 to 52 ml/min), or PSP excretion of 10% to 15% in 15 minutes, or although creatinine clearance is greater than 75 liters/24 hr (52 ml/min), or PSP excretion is more than 15% in 15 minutes, symptoms and signs of upper urinary tract disease or dysfunction necessitate continuous surveillance and frequent treatment.

CLASS 3: Diminution is present as evidenced by creatinine clearance of 40 to 60 liters/24 hr (28 to 42 ml/min), of PSP excretion of 5% to 10% in 15 minutes, or although creatinine clearance is 60 to 75 liters/24 hr (42 to 52 ml/min), or PSP excretion is 10% to 15% in 15 minutes, symptoms and signs of upper urinary tract disease or dysfunction are incompletely controlled by surgical or continuous medical treatment.

CLASS 4: Diminution is present as evidenced by creatinine clearance below 40 liters/24 hr (28 ml/min), or PSP excretion below 5% in 15 minutes, or although creatinine clearance is 40 to 60 liters/24 hr (28 to 42 ml/min), or PSP excretion is 5% to 10% in 15 minutes, symptoms and signs of upper urinary tract disease or dysfunction persist despite surgical or continuous medical treatment.

h. Surgically-created forms of urinary diversion

- Ureterointestinal
- Cutaneous ureterostomy without intubation
- Nephrostomy or intubated ureterostomy

i. Bladder

Where the residuals from the accepted condition or any direct medical sequela place the worker in one or more classes, the worker is placed in the highest class in which the worker has impairment findings.

CLASS 1: Symptoms and signs are present requiring intermittent treatment with normal function between episodes of malfunction.

CLASS 2: Symptoms or signs are present requiring continuous treatment, or there is good bladder reflex activity, but no voluntary control.

CLASS 3: Bladder has poor reflex activity resulting in intermittent dribbling and no voluntary control.

CLASS 4: Bladder has no reflex or voluntary control resulting in continuous dribbling.

j. Urethra

Where the residuals from the accepted condition or any direct medical sequela place the worker in one or more classes, the worker is placed in the highest class in which the worker has impairment findings.

CLASS 1: Symptoms and signs are present requiring intermittent therapy for control.

CLASS 2: Symptoms and signs are present that cannot be effectively controlled by treatment.

k. Penile sexual dysfunction

Where the residuals from the accepted condition or any direct medical sequela place the worker in one or more classes, the worker is placed in the highest class in which the worker has impairment findings.

CLASS 1: Sexual function is possible, but with varying degrees of difficulty in erection, ejaculation, or sensation.

CLASS 2: Sexual function is possible with sufficient erection, but with impaired ejaculation and sensation.

CLASS 3: No sexual function is possible.

1. **Cervix/uterus/vagina**

Where the residuals from the accepted condition or any direct medical sequela place the worker in one or more classes, the worker is placed in the highest class in which the worker has impairment findings.

CLASS 1: Symptoms and signs are present that do not require continuous treatment, or cervical stenosis, if present, requires periodic treatment, or there is anatomic loss of the cervix or uterus in the postmenopausal years.

CLASS 2: Symptoms and signs are present that require continuous treatment, or cervical stenosis, if present, requires periodic treatment.

CLASS 3: Symptoms and signs are present that are not controlled by treatment, or cervical stenosis is complete, or anatomic or complete functional loss of the cervix or uterus in premenopausal years.

Note: For loss or alteration of the gonads refer to *ENDOCRINE SYSTEM* below and report applicable findings.

22. **ENDOCRINE SYSTEM**

a. **Hypothalamic-pituitary axis disease**

Where the residuals from the accepted condition or any direct medical sequela place the worker in one or more classes, the worker is placed in the highest class in which the worker has impairment findings.

CLASS 1: Effectively controlled with continuous treatment.

CLASS 2: Inadequately controlled by treatment.

CLASS 3: Manifests as severe symptoms and signs despite treatment.

b. **Thyroid function**

Where the residuals from the accepted condition or any direct medical sequela place the worker in one or more classes, the worker is placed in the highest class in which the worker has impairment findings.

CLASS 1: Continuous thyroid therapy is required for correction of the thyroid insufficiency or for maintenance of normal thyroid anatomy, and the replacement therapy appears adequate based on objective physical or laboratory evidence.

CLASS 2: Symptoms and signs of thyroid disease are present, or there is anatomic loss or alteration, and continuous thyroid hormone replacement therapy is required for correction of the confirmed thyroid insufficiency, but the presence of a disease process in another body system or systems permits only partial replacement of the thyroid hormone.

c. **Parathyroid function**

• **Hyperparathyroidism**

- Symptoms and signs are controlled with medical therapy.
- There is persistent mild hypercalcemia, with mild nausea and polyuria.
- There is severe hypercalcemia, with nausea and lethargy.

• **Hypoparathyroidism**

- Symptoms and signs are controlled with medical therapy.
- Intermittent hypercalcemia or hypocalcemia with more frequent symptoms in spite of careful medical attention.

d. **Adrenal cortex**

- **Hyperadrenalism**

- Minimal, as with hyperadrenocorticism that is surgically correctable by removal of a pituitary or adrenal adenoma.
- Moderate, as with bilateral hyperplasia that is treated with medical therapy or adrenalectomy.
- Severe, as with aggressively metastasizing adrenal carcinoma.

- **Hypoadrenalism**

- Symptoms and signs are controlled according to severity.
- Symptoms and signs are controlled inadequately, usually during the course of acute illnesses.
- Severe symptoms of adrenal crises during major illness, usually due to severe glucocorticoid deficiency or sodium depletion.

e. **Adrenal medulla**

Express adrenal medulla impairment in terms of severity of pheochromocytoma as follows:

- The duration of hypertension has not led to cardiovascular disease and a benign tumor can be removed surgically.
- Inoperable malignant pheochromocytomas, if symptoms and signs of catecholamine excess can be controlled with blocking agents.
- Widely metastatic malignant pheochromocytomas, in which symptoms of catecholamine excess cannot be controlled.

f. **Pancreas**

- **Diabetes mellitus**

Where the residuals from the accepted condition or any direct medical sequela place the worker in one or more classes, the worker is placed in the highest class in which the worker has impairment findings.

CLASS 1: Non-insulin dependent (Type II) diabetes mellitus can be controlled by diet, and evidence of diabetic microangiopathy, as indicated by retinopathy or by albuminuria of greater than 30 mg/100ml., may or may not be present.

CLASS 2: Non-insulin dependent (Type II) diabetes mellitus requires both a restricted diet and hypoglycemic medication for satisfactory control of plasma glucose, and evidence of diabetic microangiopathy, as indicated by retinopathy or by albuminuria of greater than 30 mg/100 ml., may or may not be present.

CLASS 3: Insulin dependent (Type I) diabetes mellitus is present with or without evidence of diabetic microangiopathy.

CLASS 4: Insulin dependent (Type I) diabetes mellitus is present, and hyperglycemic or hypoglycemic episodes occur frequently in spite of conscientious efforts of both the patient and the attending physician.

- **Hypoglycemia**

Where the residuals from the accepted condition or any direct medical sequela place the worker in one or more classes, the worker is placed in the highest class in which the worker has impairment findings.

CLASS 1: Surgical removal of an islet-cell adenoma results in complete remission of the symptoms and signs of hypoglycemia, and there is no post-operative sequela.

CLASS 2: Signs and symptoms of hypoglycemia are present, even with controlled diet and medications, and affects the performance of ADL.

g. **Gonadal**

Determine gonadal impairment by assessing the post-injury ability of the gonads to produce and regulate the gonadal hormones. Anatomic loss or alteration is to be described as either unilateral or bilateral.

Note: For loss or alteration of the cervix/uterus and penile dysfunction refer to *GASTROINTESTINAL AND GENITOURINARY SYSTEMS* (see section 21) and report the applicable findings.

23. INTEGUMENTARY AND LACRIMAL SYSTEMS

a. **Integumentary system**

Integumentary system impairment, in areas other than the extremities, may or may not show signs and symptoms of skin disorder upon examination. Where the residuals from the accepted condition or any direct medical sequela place the worker in one or more classes, the worker is placed in the highest class in which the worker has impairment findings.

CLASS 1: With treatment, there is no limitation, or minimal limitation, in the performance of work-related activities. Exposure to certain physical or chemical agents might increase limitation temporarily.

CLASS 2: Intermittent treatment is required and there is mild limitation in the performance of some work-related activities.

CLASS 3: Continuous treatment is required and there is moderate limitation in the performance of many work-related activities.

CLASS 4: Continuous treatment is required, which may include periodic confinement at home or other domicile, and there is moderate to severe limitation in the performance of many work related activities.

CLASS 5: Continuous treatment is required, which necessitates confinement at home or other domicile, and there is severe limitation in the performance of work-related activities.

b. **Lacrimal system**

Provided the worker is restricted from regular work and the condition is not an immunological reaction, classify lacrimal system impairment causing too little or too much tearing as:

- A nuisance but does not prevent most regular work-related activities.
- Prevents some regular work-related activities.
- Prevents most regular work-related activities.

24. IMMUNE SYSTEM

Impairment to the immune system resulting from an allergic response to physical, chemical, or biological agents is categorized as follows:

- A nuisance, but does not prevent most regular work-related activities.
- Prevents some regular work-related activities.
- Prevents most regular work-related activities.

APPENDIX A Measuring spinal range of motion with a single, fluid-filled inclinometer

1. GENERAL PRINCIPLES

a. Measurement methods

There are three methods for measuring spinal range of motion:

- i. The simultaneous application of two inclinometers.
- ii. Utilization of an electronic device capable of calculating compound joint motion.
- iii. Application of a single fluid-filled inclinometer which is described in detail in this appendix. A **video** illustrating the use of a single fluid-filled inclinometer is available free of charge from the Department of Business and Consumer Services. You may get this **video** by calling the Workers' Compensation Division at 503-947-7585.

b. Validity criterion

Reproducibility of abnormal motion is the criterion for validating optimum effort. At least three consecutive measurements of mobility are to be taken, which must fall within plus or minus ten percent or five degrees (whichever is greater) of each other to be considered consistent. The measurements may be repeated up to six times to obtain consecutive measurements that meet this guideline. If inconsistency persists, the measurements are invalid, and that portion of the examination is disqualified.

This precludes performing measurements when acute illness is present. When acute spasm is observed, this must be noted in the examiner's report and the mobility measurements will be recorded for comparison purposes only. The patient must be re-examined as soon as possible after the spasm has resolved.

Note measurements that do not meet the validity criterion in the examiner's report.

Medical arbiters must obtain prior approval from the Appellate Review Unit to reschedule a range of motion test.

c. Reporting

When three consecutive measurements obtained satisfy the validity criterion, report the **greatest** angle of motion for that movement (measurements are not averaged). When reporting spinal range of motion, use the attached forms.

d. Key landmarks

Before starting to measure a range of motion, identify the key surface landmarks. With the worker standing upright, back facing you, find and mark the following:

T1 - The most prominent spinal process at the back of the neck is C7. Palpate and mark one spinal process below.

T12 - Find the twelfth (floating) rib and follow it superio-medially to T12.

Midsacrum - A line between the lateral dimples is the top of S1. The posterior superior iliac spine is at the S1-2 level. The sacro-coccygeal joint defines the inferior border of the sacrum.

e. Positioning the patient

Apply fluid-filled inclinometers in vertical position, allowing the pendulum to swing freely or the meniscus to be clearly seen. Correctly position the worker when taking measurements. For example, in measuring rotation of the head in the transverse plane, the worker must be in the supine position.

f. Preparing the worker for an examination

Because spinal mobility is influenced by such factors as anxiety, fear, and reflex bracing, explain

to the worker the purpose of the mobility examination and demonstrate the measuring instruments. Before measuring mobility, ask the worker to do some appropriate warm-up exercises, stretches, or examination maneuvers such as walking and pivoting.

2. MEASURING MOBILITY OF THE CERVICAL SPINE

a. Flexion and extension in the sagittal plane

With the worker standing or sitting in the neutral position, place the inclinometer on the posterior superior aspect of the skull. It is important to find a stable area; the exact location is not important. Stabilization can be improved by spreading the scalp with the thumb and fingers to avoid a shift of the scalp when the worker changes position. Use the free hand to stabilize the worker's shoulder. Set the scale to zero, and ask the worker to tip the head forward as far as possible.

Record the angle of flexion, and ask the worker to resume the neutral zero position. Then ask the worker to tip the head as far backward as possible, and record the angle of extension.

Starting with the worker again in the neutral position, place the inclinometer at the T1 location, spanning the posterior spinal process. Set the scale to zero and ask the worker to tip the head as far forward as possible. Record the angle of flexion. Ask the worker to resume the neutral position and then to tip the head as far backward as possible. With some workers it will be necessary to place a mark and the inclinometer over the scapular spine to avoid the head striking the inclinometer. Record the angle of extension. Measure flexion and extension movements two additional times.

Subtract the degrees of motion at T1 from the degrees of motion of the cranium to obtain the angles of cervical flexion and extension. Compare three calculated angles to determine if they meet the validity criterion. If they do not, take up to three additional readings.

b. Lateral flexion in the frontal plane

Place the inclinometer on the posterior portion of the cranial vertex in the frontal (coronal) plane. If necessary, spread the scalp to stabilize the base of the instrument. Stabilize the trunk by placing the examiner's free hand on the worker's shoulder. Starting at neutral (zero degrees), ask the worker to tip the head as far as possible to the right. Record the angle, and ask the worker to resume the neutral position. Repeat toward the left.

Next, place the inclinometer at the T1 mark, being sure to maintain the instrument in a vertical position. Starting at neutral (zero degrees), ask the worker to tip the head as far as possible to the right. Record the angle, and ask the worker to resume the neutral position. Repeat toward the left.

Repeat each set of measurements two times. Subtract the degrees of motion at T1 from the degrees of motion of the cranium to obtain the angles of lateral flexion. Test for consistency. If the readings do not meet the validity criterion, take up to three additional readings.

c. Rotation in the transverse plane

For these measurements, the worker must be in the supine position. Stabilize the inclinometer on the forehead in the transverse (transaxial) plane. Starting at neutral (zero degrees), ask the worker to rotate the head as far as possible to the right. Note the angle, and ask the worker to return the head to neutral zero position. Then ask the worker to rotate the head as far as possible to the left, and record the degrees of rotation.

Repeat this process two additional times, and determine if the validity criterion is met. If it is not, take up to three additional readings.

3. MEASURING MOBILITY OF THE THORACIC SPINE

a. Angle of minimum kyphosis

It is necessary to find the angulation of the normal posterior curve of the spine (angle of

minimum kyphosis). Ask the worker to maintain a maximally extended "military brace" (fully erect) straight posture position. Place and zero the inclinometer in the sagittal plane across the T1 spinal process, then move the instrument to the T12 position and measure the angle. This reading provides the angle of minimum kyphosis.

EXAMPLE: T1=0 degrees, T12=10 degrees
The angle of minimum kyphosis is 10 degrees.

b. Flexion in the sagittal plane

Ask the worker to bend forward as far as possible while maintaining the hands on the hips. While the worker is maximally flexed, zero the inclinometer at the T1 mark. Then move the inclinometer to the T12 mark and record the angle. Repeat the process two additional times.

EXAMPLE: T12=50, 45, 48 degrees. T12 angle is 50 degrees.

Subtract the angle measured when fully erect (angle of minimum kyphosis) from the angle measured in full flexion to calculate the true thoracic flexion angle.

EXAMPLE: T12 angle=50 degrees minus angle of minimum kyphosis 10 degrees equals true thoracic flexion angle of 40 degrees. Determine if the validity criterion is met. If it is not, take up to three additional readings.

c. Rotation in the transverse plane

Ask the worker to bend forward until the thoracic spine is approximately parallel to the floor. Zero the inclinometer in the transverse plane at T1 and ask the worker to rotate the trunk as far as possible to the right. Record the angle of rotation. Ask the worker to rotate as far as possible to the left, and record the angle. Move the inclinometer to T12, and obtain corresponding right and left angles of rotation at this level.

This procedure may be performed with the worker leaning forward in the sitting position, if necessary for worker comfort and full participation.

The measurements may also be performed with the worker in the supine position. A second observer must stabilize the pelvis by placing the hands on the iliac crests. Center the instrument over the sternum in the transverse plane, and set the scale to zero. Ask the worker to hold the upper arms tight against the trunk and then to rotate the trunk first to the right and then to the left, while the rotational angles are noted.

Subtract the degrees of motion at T12 from the degrees of motion at T1 to obtain the thoracic segment rotation. Determine if the validity criterion has been met. If the calculated rotational angles do not meet the criterion, take up to three additional readings.

4. MEASURING MOBILITY OF THE LUMBAR SPINE

a. Flexion and extension in the sagittal plane

With the worker in the standing position, knees straight and weight balanced on both feet, center the inclinometer over T12 in the sagittal plane, and zero the scale. The worker may place the hands at the waist for greater stability. If necessary, place a hand on the worker's shoulder to prevent loss of balance. Ask the worker to bend forward as far as possible while maintaining the pelvis in neutral position. Record the angle of flexion. Ask the worker to resume the neutral position, then to bend backward as far as possible. Record the angle of extension.

Move the inclinometer to the midsacrum, and reset the device to zero. Measure the angles of flexion and extension at this level.

Repeat this set of measurements two times. Subtract the degrees of motion of the sacrum from the degrees of motion at T12 to obtain the angles of lumbar flexion and extension. Calculate to determine if the validity criterion has been met. If it has not, take up to three additional readings.

b. **Lateral flexion in the frontal plane**

With the worker standing erect and knees straight, place the inclinometer at the T12 mark, vertically aligned in the frontal plane. Ask the worker to bend the trunk as far as possible to the right while maintaining the pelvis in neutral position. Record the angle. Then ask the worker to bend as far as possible to the left, and record the angle.

Move the inclinometer to the midsacrum and repeat the instructions.

Subtract the sacral measurements from the T12 measurements to obtain the angles of right and left lateral flexion. Check values obtained to determine if they meet the validity criterion. If they do not, obtain up to three additional measurements.

c. **Straight-leg raising (SLR) validity test of lumbar flexion**

The straight-leg raising validity test is a **passive** motion. With the worker supine and both knees extended, place the inclinometer vertically along the anterior tibia, and zero the instrument. Record the SLR angle by elevating the leg with the end point measured when the knee can no longer be maintained straight or the pelvis begins to flex. Keep the opposite knee straight against the table using the free hand. Measure the SLR angle of both legs taking three consecutive measurements. Check values obtained to determine if they meet the validity criterion. If they do not, obtain up to three additional measurements.

The measurements of true lumbar flexion are invalid if the tightest SLR angle is not equal to or within 10 degrees of the sum of the lumbar extension and flexion measured at midsacrum.

EXAMPLE: Tightest SLR is 40 degrees. If the sum of midsacrum extension and flexion equals between 30 and 50 degrees, these measurements are valid.

APPENDIX B Examination report sample

The format displayed below is a way to organize the examination report. It can also serve as a checklist for the medical provider to use while the examination is in progress.

[Date]

RE: Worker:
Date of Injury:

WCD No:
Claim No:

Dear [requestor of the examination]

The worker referenced above was seen for the purposes of an impartial examination on (*date*). The examination was performed by Dr. (*name*) and focused on permanent findings of impairment. Dr. (*name*) dictated this report.

Accepted condition(s): Provided by the requestor.

Denied condition(s): Provided by the requestor.

History of the compensable injury/condition: *Summarize the history of the injury, diagnosis, treatment, outcome, and medically stationary status. Note: The medically stationary date cannot be projected beyond the date of the closing examination.*

Past medical history: *Briefly describe any medical history prior to the accepted injury that has an effect on the examination findings.*

Work status: *Working or not, job-at-injury or modified, etc.*

Description of clinical exam: *List all examination tests performed and their results.*

Examination findings: *Answer all questions submitted by the requestor and include any findings that in your medical opinion are due to the compensable condition.*

Residual functional capacity (RFC): *When requested, includes lifting capability.*

Direct medical sequela: *Per the medical record, identify and clearly describe sequela due to the accepted condition. Describe relationship to accepted condition.*

Apportionment: *When there is disability due to the accepted condition and other unrelated conditions involving the same body area or system, separate out the percentage of the findings or disability due to the accepted condition and any direct medical sequelae alone (e.g., 50% of the decreased range of motion due to accepted condition and 50% range of motion due to unrelated condition).*

Estimating impairment: *When the worker's overall condition is not medically stationary and findings of impairment are requested for the accepted conditions, follow the steps in this bulletin under Estimating Impairment.*

Impression/discussion: *Clearly describe impairment due to the accepted condition and your medical opinion relative to any findings. If a finding is invalid, outline your medical reasoning for discounting it and opine to what you attribute the finding.*

[Signature]

cc: [Worker or worker's attorney (if applicable) and address]
[Insurer and insurer's attorney (if applicable) and address]