



**GUIDELINES TO THE EVALUATION OF IMPAIRMENT
OF THE ORAL AND MAXILLOFACIAL REGION**

The American Association of Oral and Maxillofacial Surgeons has recognized the need for the establishment of a specific method of evaluating permanent impairments of the maxillofacial region. The Committee on Healthcare and Advocacy of the American Association of Oral and Maxillofacial Surgeons was given the responsibility of establishing the methodology of measurement, and assigning values for permanent impairment of this area. Using the methods described in this document and the *AMA Guides to the Evaluation of Permanent Impairment, Sixth Edition*, the practitioner will be able to assign an impairment value to the individual for the maxillofacial region.

OBJECTIVES

- ❑ Provide a permanent Impairment Rating for the Maxillofacial Region
- ❑ Definition of terms
- ❑ Recognize that there are different purposes for providing an impairment rating, i.e. workman's compensation, Social Security administration, personal injury litigation and medical indemnity insurance.
- ❑ Understand applicable state regulation for conducting such examinations.

ACKNOWLEDGEMENT

The Report of Medical Evaluation (Permanent Medical Impairment) on pages 11-13 and the combined injury ratings on page 3 are taken from the *Guides to the Evaluation of Permanent Impairment*, current edition 6th *AMA Guides*.

Page numbers referenced within this document are found in Rondinelli, Robert D., medical editor, *Guides to the Evaluation of Permanent Impairment*, 6th edition, American Medical Association, 2008, unless specifically noted otherwise.

This document does not constitute endorsement by the American Medical Association of the methods and procedures described by the AAOMS in the *Guidelines to the Evaluation of Impairment of the Oral and Maxillofacial Region*.

Handicap: The Federal Rehabilitation Act of 1973 identifies a “handicapped” individual as one who has an impairment that substantially limits one or more life activities including work, has a record of such impairment, and this impairment can be overcome only by compensation. i.e. artificial limb, etc.

III EVALUATION OF THE ORAL AND MAXILLOFACIAL REGION FOR PERMANENT IMPAIRMENT

Injury model or range of motion model can be used to assess impairment in the maxillofacial region.

A. Masticatory Dysfunction:

Eating involves the function of the teeth, jaws, muscles of mastication, muscles of deglutition, and temporomandibular joint. In addition, it requires the ability of a person through lip, tongue and muscle function to be able to swallow food. Loss or change in the functional relationship of any of these anatomic-physiologic components of the system will result in a functional change for the individual.

Loss of teeth and/or dentoalveolar structure (underlying osseous or soft tissue structure) may be due to trauma, developmental condition, or associated disease e.g. extractions indicated for radiation therapy in the treatment of primary or metastatic cancers of the head and neck.

There is a distinct and measurable variation between forces generated by natural dentition versus patients with prostheses (full removable dentures). Maximal bite forces appear to be five to six times less for complete denture wearers. In addition, many prosthetic patients select foods that require reduced masticatory capability.

Patients may also develop adverse sequelae with tooth loss including speech difficulties and associated psychosocial problem secondary to cosmetic changes.

The following recommendations are made for determining the impairment rating of the individual loss based on the contribution of each component to the masticatory system. However, reconstruction with prosthesis after a loss of dentition:

Patient restricted to liquid foods = 50% impairment of whole person if feeding tube is necessary

Loss of dentition with ability to wear dentures= 5-10-15% impairment of whole person if restricted to semi-solid and soft food, (p 269, Table 11-7)

Speech should not be evaluated by an oral and maxillofacial surgeon. The patient should be referred to a speech pathologist.

Example of trauma or oral cancer patient:

Calculation of whole person impairment using the combined value chart with the following assignments:

- 1- 20-25-30% impairment of a person who is restricted to a liquid diet (non feeding tube), and
- 2- 0-35% for speech impairment (not rated by an oral and maxillofacial surgeon) is a combined value which equals the percentage of whole person impairment. (p.274, Table 11-8)

B. Temporomandibular Joint (TMJ)

Range of motion model used to assess impairment in the maxillofacial region involving the TMJ.

The craniomandibular articulation is composed of the temporomandibular joints bilaterally and the masticatory musculature. These two joints function as a unit.

Total loss of motion or ankylosis renders the patient unable to chew or speak in a normal manner.

The following are not correlated to the AMA Guides, but are suggestions of the AAOMS Committee on Healthcare and Advocacy:

Summary of Steps in Evaluation of Impairment of Craniomandibular Articulation

- 1- Identify the area of involvement.
- 2- Measure the voluntary, non-painful interincisal opening between maxillary and mandibular central incisors (interincisal range of motion).
Measure the lateral excursive distance of the mandible, using the dental midlines from maximum dental intercuspation.
- 3- Add the impairment values for loss of interincisal opening and lateral excursive distance to obtain the craniomandibular articulation impairment value.

INTERINCISAL RANGE OF MOTION		% OF NORMAL WHOLE PERSON	% IMPAIRMENT WHOLE PERSON
Hypomobile	0-10 mm	20	10
Hypomobile	10-20 mm	40	8
Hypomobile	21-29 mm	50	5-7
Hypomobile	30-35 mm	70	3-4
Hypomobile	35- 39mm	95	3-5
Normal	40-50 mm	100	0

*35 mm is an acceptable range of jaw opening in the AAOMS Parameters of Care: Clinical Practice Guidelines for Oral and Maxillofacial Surgery (AAOMS ParCare 07).

LATERAL EXCURSION RANGE OF MOTION		% OF NORMAL	% IMPAIRMENT OF WHOLE PERSON
Hypomobile	0-4mm	60	4
Hypomobile	4-7 mm	70	3
Hypomobile	8-10 mm	90	1
Normal	12 mm	100	0

Hypermobility generally does not impair function and is not ratable. If it appears to cause impairment, it should be treated as a muscle weakness.

Example: A patient has a noted disc derangement with an incisal opening of 25 mm. And lateral excursive movements of 6 mm.

Ratable Criteria:

Interincisal opening	6% impairment
Lateral excursive movement	3% impairment

The two range of motion values are added together:
 $6\% + 3\% = 9\%$ impairment of whole person (p 604-6)

Example: A patient has an ankylosis of the temporomandibular joint with a maximum opening of 5 mm and lateral excursive movements of 2 mm. Diet is restricted to liquid foods.

Ratable Criteria:

Interincisal opening	10% impairment
Lateral excursive movement	4% impairment

Diet restriction (p. 269 Table 11-7) 30% Impairment

First, add the range of motion values: 10% + 4% =14%. Then using the combined values chart (p. 604-6), add the 14% + 30% = 35% of the whole person. To do this take the higher % which is 30% and use the left side of the chart and then go to the lesser % (14%) and trace down to 30% and the number in the chart is 35%.

Impairments secondary to other derangement such as resection, implant arthroplasty, or musculoskeletal disorders are usually rated according to the above criteria. It is left up to the individual examiner whether to consider these disorders separately. The evaluator must use judgment and avoid duplication of impairments.

C. Skeletal Facial Deformities and Facial Disfigurement (p. 260-270)

Skeletal-facial deformities of the maxilla and/or mandible can produce abnormal function and appearance. These deformities may arise from multiple genetic factors, environmental influences, acquired defects, neoplastic processes, degenerative disease and trauma.

Documentation of a skeletal-facial deformity should include:

- ❑ History to clearly indicate the source of the skeletal-facial deformity (congenital, developmental, or acquired);
- ❑ Imaging documentation, when feasible, of the deformity, e.g. post-traumatic defects and/or lateral skull and facial bone x-rays for cephalometric analysis;
- ❑ Clinical photographs; and/or
- ❑ Facial moulage or dental models.

Impairment evaluation of an individual with a skeletal facial deformity should be based on a combined value score using AMA's combined value table based on ratable symptoms that are deviations from normal function.

The following conditions (impairments) should be separately rated. Then, using the combined value table, whole person impairment can be calculated.

Masticatory Insufficiency: Premature loss of teeth not in functional occlusion as a result of the underlying skeletal deformity.

All teeth missing or not in functional occlusion could be assigned an impairment value of 5% of the dental system for molars and 3% of the dental system for incisors. If the whole person impairment value based on premature loss of teeth or teeth not in functional occlusion is less than that of a total restriction to liquid diet, the greater value of a whole person impairment assigning 20-30% loss of whole person impairment based on a liquid diet should be used.

A person missing 30 teeth with prosthesis is not usually on a liquid diet. Therefore, 0% - 8% for loss of teeth (injury model).

Abnormal Respiratory (Airway) Problem: (this usually would be rated by other examiners) related to the skeletal dental deformity which results in either obstruction, snoring, or sleep apnea. A referral for a laboratory sleep study is needed.

Patient with facial skeletal deformities such as vertical maxillary excess and mandibular retrognathia may have upper airway impairment. A sequela of this deformity may be multiple episodes of cessation of breathing for at least 10 seconds during periods of sleep. Some of the signs and symptoms of this syndrome are snoring, abnormal behavior during sleep and interrupted sleep patterns, and excessive daytime somnolence.

Facial Appearance (Disfigurement): Facial appearance is extremely important for identification and self image. Disturbances in facial appearance or function can also have a major impact on social acceptance. Loss of structural integrity and soft tissue changes or injury can result in disfigurements that result not only in physical, but social and functional problems.

In those cases where the skeletal facial defects, as a result of either congenital or developmental deformities, disease, trauma, or surgical intervention, result in a permanent disfigurement, the following impairments may be assigned and used with the combined values scale in determining a total value for skeletal facial deformities.

Relative to the examples of Table 11-5 Facial Disorder/Disfigurement Rating found on p. 262 of the AMA Guides to the Evaluation of Permanent Impairment, the AAOMS supports the following classifications and rating impairment of whole person.

- | | |
|---------|---|
| Class 0 | Impairment of the Whole Person, 0%
A patient belongs in class 0 when there is limited scarring. |
| Class 1 | Impairment of the Whole Person, 1-5%
A patient belongs in class 1 when the facial abnormality is limited to a disorder of the cutaneous structures, such as visible scars and abnormal pigmentation, or mild unilateral total facial paralysis, or nasal distortion that affects appearance. |
| Class 2 | Impairment of the Whole Person, 6-10%
A patient belongs in class 2 when there is a loss of supporting structure of part of the face, with or without cutaneous disorder. Depressed cheek, nasal, or frontal bones. |
| Class 3 | Impairment of the Whole Person, 11-23% |

A patient belongs in class 3 when there is an absence of a normal anatomical area of the face. Loss of an eye or loss of part of the nose with the resulting cosmetic deformity (if visual or respiratory loss, suggest other examiners), or severe unilateral total facial paralysis, or mild bilateral facial paralysis

Class 4 Impairment of the Whole Person, 25-45%
 A patient belongs in class 4 when facial disfigurement is so severe that it precludes social acceptance. Massive distortion of normal facial anatomy, or severe bilateral total facial paralysis, or loss of major portion of nose

<u>Disfigurement</u>	<u>Impairment of Whole Person</u>
Unilateral Total Facial Paralysis	= 1-5% mild
	= 11-23% severe
Bilateral Total Facial Paralysis	= 5-18% mild
	= 25-45% severe
Loss of Deformity of Outer Ear	= 11-23% mild
Loss of the Entire Nose	= 25-45%
Nasal Distortions in Physical Appearance	= 1-5%

(p. 262, Table 11-, AMA Guides Ed. 6)

Cleft Palate Deformity: Example: Cleft palate deformity is a congenital deformity that is amenable to surgical correction and improvement from the time of birth through adolescent and adult year. It is a congenital deformity requiring multiple surgical procedures of the cleft. The cleft palate patient can be evaluated for impairment value based on skeletal deformity values of:

- 1- Mastication dysfunction/malocclusion
- 2- Articulation
- 3- Temporomandibular joint problems
- 4- Facial appearance
- 5- Psychosocial and/or behavioral problems
- 6- Sleep disorder

Psychosocial: If indicated, impairment values can be assigned for behavioral or psychosocial problems that are the result of a facial deformity, but it is suggested they be rated by other examiners.

Pain: There is disagreement by experts as to the validity of a pain-related impairment (PRI) and the relationship to whole person impairment (WPI). In the 5th edition this was capped at 3% WPI. In the 6th edition the AMA Guidelines addresses examiners to consider congruence with established conditions, consistency over time and situation, consistency with anatomy and physiology, agreement between observers and inappropriate illness

behavior. The 6th edition also recommends that the patient fill out the Pain Disability Questionnaire (PDQ) [appendix 3-1 p.43 Chapter 3]. The numerical total should then be related to Table 3-1, p.40, Chapter 3, which gives the values for whole person impairment.

- 1- Migraine headache: example, p. 343, Table 13-18.
- 2- Cranial neuropathies or dysfunction: example p. 40, Table 3-1; p. 343, Table 13-19,
 - a. *Trigeminal (V) and Glossopharyngeal (IX) Neuralgia ((cranial neuropathies or dysfunction)*
Mild impairment due to uncontrolled facial neuralgic pain = 3-5% whole person
Moderate impairment = 3-5%
Severe = 6-10%
 - b. *Facial Nerve (p.262, Table 11-5)*
Complete loss of taste - anterior tongue = 1-5% whole person impairment (p. 270)
Mild unilateral facial weakness = 1-5% whole person impairment
Mild bilateral facial weakness = 11-23% whole person impairment

or

Severe unilateral facial paralysis with 75% or greater facial involvement
Severe bilateral facial paralysis with inability to control eyelid closure =25-45%
 - c. *Criteria for Rating Miscellaneous Peripheral Nerves,(greater and lesser occipital nerves and greater and lesser auricular nerves), p 343, Table 13-19; p. 344, Table 13-20.). Cranial neuropathies other than trigeminal/glossopharyngeal : p. 343 Chapter 11 and p. 262 Table 11-5.*

**REPORT OF MEDICAL EVALUATION PERMANENT MEDICAL
IMPAIRMENT**

TO: _____

RE: _____

CASE #: _____

DATE OF LOSS: _____

- | | | |
|----|---|----------------------|
| 1. | PAST MEDICAL HISTORY | YES / NO |
| | A. MEDICAL OFFICE RECORDS | REVIEWED
ENCLOSED |
| | _____ | |
| | B. HOSPITAL RECORD | REVIEWED
ENCLOSED |
| | _____ | |
| | C. FROM PATIENT | |
| | _____ | |
| | D. FROM OTHER SOURCES (DESCRIBE) | |
| | _____ | |
| 2. | CLINICAL EVALUATION | YES / NO |
| | A. PHYSICAL EXAMINATION | REPORT
ENCLOSED |
| | _____ | |
| | B. LABORATORY TEST | REPORT
ENCLOSED |
| | _____ | |
| | C. SPECIAL TESTS AND DIAGNOSTIC
PROCEDURES | REPORT
ENCLOSED |
| | _____ | |
| | D. SPECIALTY EVALUATIONS | REPORT |

3. **DIAGNOSES**

- A. _____
- B. _____
- C. _____

4. **STABILITY OF MEDICAL CONDITION**

A. THE CLINICAL CONDITION IS STABILIZED AND NOT LIKELY TO IMPROVE WITH SURGICAL INTERVENTION OR ACTIVE MEDICAL TREATMENT MEDICAL MAINTENANCE CARE IS WARRANTED.

YES / NO

B. THE DEGREE OF IMPAIRMENT IS NOT LIKELY TO CHANGE BY MORE THAN 3% WITHIN THE NEXT YEAR

YES / NO

C. EMPLOYMENT IS NOT LIKELY TO IMPROVE WITH SURGICAL INTERVENTION OR ACTIVE MEDICAL TREATMENT.

YES / NO

D. THE PATIENT IS NOT LIKELY TO SUFFER SUDDEN OR SUBTLE INCAPACITATION

YES / NO

5. **OTHER ANALYSES**

A. EXPLAIN BRIEFLY THE IMPACT (S) OF THE MEDICAL CONDITION (S) ON THE PATIENT'S ACTIVITIES OF DAILY LIVING (SEE P. 7, TABLE 1-1; P. 323, TABLE 13-2)

B. IS THERE A MEDICAL REASON TO BELIEVE THE PATIENT IS LIKELY TO SUFFER INJURY, HARM, OR FURTHER MEDICAL IMPAIRMENT BY ENGAGING IN USUAL ACTIVITIES OF DAILY LIVING OR OTHER ACTIVITIES NECESSARY TO MEET PERSONAL, SOCIAL, OR OCCUPATIONAL DEMANDS? EXPLAIN BRIEFLY.

YES / NO

C. IS THERE A MEDICAL REASON TO BELIEVE OTHER RESTRICTIONS OR ACCOMMODATIONS ARE NECESSARY TO HELP THE PATIENT CARRY OUT USUAL ACTIVITIES OR MEET PERSONAL, SOCIAL AND OCCUPATIONAL DEMANDS? IF SO, BRIEFLY EXPLAIN THEIR THERAPEUTIC, RISK-AVOIDANCE, OR OTHER KIND OF VALUE?

YES / NO

6. IMPORTANT EVALUATION ACCORDING TO AMA GUIDES - ATTACH A COMPLETE REPORT OF FINDINGS AND NARRATIVE COMMENTS FOR EACH BODY PART OR SYSTEM.

BODY PART OR SYSTEM	CHAPTER #	TABLE
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- A. _____
- B. _____
- C. _____
- D. _____

- THIS PATIENT HAS BEEN UNDER MY CARE FROM _____ TO _____
- I HAVE NOT PROVIDED CARE FOR THIS PATIENT. I HAVE SEEN THIS PATIENT _____ TIME (S) FOR THE PURPOSE OF EVALUATING MEDICAL IMPAIRMENT.

SIGNATURE

PLEASE PRINT NAME

REFERENCES

Parameters and Pathways: Clinical Practice Guidelines for Oral & Maxillofacial Surgery (AAOMS Parameters of Care, 2007)

Fundamentals of Impairment and Disability Evaluations Handbook, American College of Occupational and Environmental Medicine 1995.

Guides to the Evaluation of Permanent Impairment Sixth Edition. American Medical Association, 2007.

Statements by the American Association of Oral and Maxillofacial Surgeons Concerning the Management of Selected Clinical Conditions and Associated Clinical Procedures Temporomandibular Disorders.