Complete and Partial Edentulism

April 2, 2004

ICD-9 C & M Meeting
Baltimore, MD
525 Other diseases and conditions of the teeth and supporting structures

- 525.1 Classification of edentulism based on the etiology of tooth loss
  - Trauma
  - Extraction
  - Periodontal Disease
Complete Edentulism
Complete Edentulism
Complete Edentulism

- Edentulism, defined as total tooth loss, is more prevalent among persons with less than a high school education, those without dental insurance, non-Hispanic blacks, and current everyday smokers (CDC, 1999).
- Between the 1950s and the early 1990s the prevalence of edentulism in the United States decreased from 50% to 42% among people aged 65 and older, from 28% to 11% for 45- to 64-year-olds, and from 5% to 2% for persons 18 to 44 years old (Oliver & Brown, 1993).

525 Other diseases and conditions of the teeth and supporting structures

- 525.4 Classification of complete edentulism based on the severity of the completely edentulous predicament
Complete Edentulism

Classification System for Complete Edentulism

McGarry TJ, Nimmo A, Skiba JF, Ahlstrom RH, Smith CR, Koumjian JH

*J Prosthodont. 1999 Mar;8(1):27-39*
Classification System for the Completely Edentulous Patient

Class I
- Ideal or minimally compromised

Class II
- Moderately compromised

Class III
- Substantially compromised

Class IV
- Severely compromised

Diagnostic Criteria
1. Bone height--mandibular
2. Maxillomandibular relationship
3. Residual ridge morphology--maxilla
4. Muscle attachments
Diagnostic Criteria

1. Bone height--mandibular
2. Maxillomandibular relationship
3. Residual ridge morphology-maxilla
4. Muscle attachments
1. Bone Height

Mandibular
Type I

Residual bone height of 21mm or greater measured at the least vertical height of the mandible.
Type IV

Residual vertical bone height of 10 mm or less measured at the least vertical height of the mandible
2. Residual Ridge Morphology

Maxilla
Type A

- Anterior labial and posterior buccal vestibular depth that resists vertical and horizontal movement of the denture base
- Palatal morphology that resists vertical and horizontal movement of the denture base
- Sufficient tuberosity definition that resists vertical and horizontal movement of the denture base
- Hamular notch is well defined to establish the posterior extension of the denture base
- Absence of tori or exostoses
Type D

- Loss of anterior labial and posterior buccal vestibules
- Maxillary palatal and/or lateral tori-rounded or undercut that interferes with the posterior border of the denture
- Hyperplastic, redundant anterior ridge
- Palatal vault morphology that does not resist vertical or horizontal movement of the denture base
- Prominent anterior nasal spine
3. Maxillomandibular Relationship
Class I

Maxillomandibular relationship allows tooth position that has normal articulation with the teeth supported by the residual ridge.
Class III

Maxillomandibular relationship requires tooth position outside the normal ridge relation in order to attain phonetics and articulation; i.e., crossbite—anterior or posterior, tooth position not supported by the residual ridge.
4. Muscle Attachments
Type A

Adequate attached mucosal base without undue muscular impingement during normal function in all regions.
Type D

- Adequate attached mucosal base only in the posterior lingual region
- All other regions are detached
Diagnostic Classification of Complete Edentulism
Class I

This classification level describes the stage of edentulism that is most apt to be successfully treated by conventional prosthodontic techniques with complete denture prosthesis.

All four of the diagnostic criteria are favorable.
Class I

- Residual bone height of 21 mm or greater measured at the least vertical height of the mandible

- Class I maxillomandibular relationship
Class II

This classification level distinguishes itself with the noted continuation of the physical degradation of the denture supporting structures and in addition is characterized with the early onset of systemic disease interactions, localized soft tissue factors and patient management/lifestyle considerations.
- Residual bone height of 16-20 mm measured at the least vertical height of the mandible

- Class I maxillomandibular relationship

- Residual ridge morphology that resists horizontal and vertical movement of the denture base—*Type A, B*—Maxilla
Class III

This classification level is characterized by the need for surgical revision of denture supporting structures to allow for adequate prosthodontic function.

Additional factors now play a significant role in treatment outcomes.
Class III

- Residual bone height of 11-15 mm measured at the least vertical height of the mandible

- Class I, II and III maxillomandibular relationship

- Residual ridge morphology has minimum influence to resist horizontal or vertical movement of the denture base—Type C—Maxilla

- Location of muscle attachments with moderate influence on denture base stability and retention—Type C—Mandible
Class IV

- This classification level depicts the most debilitated edentulous condition.

- Surgical reconstruction is almost always indicated but can not always be accomplished due to the patient’s health, desires, past dental history and financial considerations.

- When surgical revision is not selected, prosthodontic techniques of a specialized nature must be used in order to achieve an adequate treatment outcome.
Class IV

- Residual bone height of least vertical height of the mandible
- Class I, II and III maxillomandibular relationships
- Residual ridge offers no resistance to horizontal or vertical movement – Type D—Maxilla
- Location of muscle attachments with significant influence on denture base stability and retention—Type D and E—Mandible
Completely Dentate
Partial Edentulism
Partial Edentulism
525 Other diseases and conditions of the teeth and supporting structures

525.5 Classification of partial edentulism based on the severity of the partially edentulous predicament
Partial Edentulism

Classification System for Partial Edentulism


*J Prosthodont. 2002 Sep;11(3):181-93*
Classification System for the Partially Edentulous Patient

Class I
- Ideal or minimally compromised

Class II
- Moderately compromised

Class III
- Substantially compromised

Class IV
- Severely compromised

Diagnostic Criteria
1. Location and extent of the edentulous area(s)
2. Condition of the abutment teeth
3. Occlusal scheme
4. Residual ridge
DIAGNOSTIC CRITERIA

1. Location and extent of the edentulous area(s)
2. Condition of the abutment teeth
3. Occlusal scheme
4. Residual ridge
<table>
<thead>
<tr>
<th>Location &amp; Extent of Edentulous Areas</th>
<th>Class I</th>
<th>Class II</th>
<th>Class III</th>
<th>Class IV</th>
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<td>Ideal or minimally compromised-single arch</td>
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<td>Moderately compromised-both arches</td>
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<td>Substantially compromised- &gt;3 teeth</td>
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<td>Severely compromised-guarded prognosis</td>
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<td>Congenital or acquired maxillofacial defect</td>
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<td>Severely compromised-extensive adjunctive tx</td>
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<td>Occlusal Scheme</td>
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<td>Severely compromised-change in VDO</td>
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<td>Class IV Edentulous</td>
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<td>Conditions Creating a Guarded Prognosis</td>
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<td>Severe oral manifestations of systemic disease</td>
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<td>Maxillomandibular dyskinesia and/or ataxia</td>
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<td>Refractory patient</td>
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Partial Edentulism
Committed to developing a dental educational curriculum that is diagnosis driven.

The only dental school in the third largest city in the US providing service to more than 100,000 patient visits per year.

Need for clinical studies that have a common, transparent and systematic diagnosis. Achieved by employing the evidence-based process to assemble, organize and synthesize clinical research in a rigorous and transparent fashion. This body of evidence, coupled with clinical expertise, will lead to the creation of guidelines designed to enhance clinical judgment and decision-making.
Concluding Remarks

- The codes being proposed are part of normal diagnostic data collection that occurs for all patients, meeting with the existing standard of care in dentistry.
- The proposed new codes are within the scope and conventions of the existing classification.
- By adopting these codes into the public domain, dental educators, researchers and clinicians will be able to contribute significantly to the body of evidence.
Acknowledgements

- Dr. Stephen Campbell
- Dr. Kent Knoernschild
- Dr. John Zarb
- Dr. Thomas McGarry
- Dr. Barry Shipman
- Dr. Rosemary Walker
- Ms. Teri Jorwic
- Dr. Bruce Graham
- Ms. Lea Alexander