“DENTISTRY 101”

National Oral Health Conference
April 30, 2005
Pittsburgh, Pennsylvania
Itinerary

• The mouth and its parts
• Dental disease-decay, periodontal
• Dentistry
• The business of dentistry
• Policy Drivers
• Hot topics
The Mouth and Its Parts
The Mouth and Parts

- Upper Labial Frenum
- Gingiva
- Uvula
- Hard Palate
- Soft Palate
- Maxillary Tuberosity
- Tonsil
- Retromolar pad
- Hamulus
- Gingiva
- Mandib Vestibule
- Lower Labial Frenum
The Dental Arch

- **Maxillary (upper) Arch**: part of the skull, incapable of movement.
- **Mandibular (lower) Arch**: capable of movement.

The action of the temporomandibular joint brings the mandibular arch into contact with the maxilla as we talk, chew or swallow.
Teeth

- Deciduous, primary, “baby”
- Permanent
Healthy Primary Teeth are Important

- Chewing and nutrition
- Development of the permanent teeth
- Facial structure
- Speech development
Deciduous Teeth

Notation for the Deciduous Dentition, Facial View

Notation for the Deciduous Dentition, Occlusal View
Deciduous Teeth

Eruption Schedule
# The Primary Arch

<table>
<thead>
<tr>
<th>Upper Teeth</th>
<th>Erupt</th>
<th>Shed</th>
</tr>
</thead>
<tbody>
<tr>
<td>Central incisor</td>
<td>8-12 mos</td>
<td>6-7 yrs</td>
</tr>
<tr>
<td>Lateral incisor</td>
<td>9-13 mos</td>
<td>7-8 yrs</td>
</tr>
<tr>
<td>Canine</td>
<td>16-22 mos</td>
<td>10-12 yrs</td>
</tr>
<tr>
<td>1&lt;sup&gt;st&lt;/sup&gt; molar</td>
<td>13-19 mos</td>
<td>9-11 yrs</td>
</tr>
<tr>
<td>2&lt;sup&gt;nd&lt;/sup&gt; molar</td>
<td>25-33 mos</td>
<td>10-12 yrs</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Lower Teeth</th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>2&lt;sup&gt;nd&lt;/sup&gt; molar</td>
<td>23-31 mos</td>
<td>10-12 yrs</td>
</tr>
<tr>
<td>1&lt;sup&gt;st&lt;/sup&gt; molar</td>
<td>14-18 mos</td>
<td>9-11 yrs</td>
</tr>
<tr>
<td>Canine</td>
<td>17-23 mos</td>
<td>9-12 yrs</td>
</tr>
<tr>
<td>Lateral incisor</td>
<td>10-16 mos</td>
<td>7-8 yrs</td>
</tr>
<tr>
<td>Central incisor</td>
<td>6-10 mos</td>
<td>6-7 yrs</td>
</tr>
</tbody>
</table>
Eruption

Upper Teeth
- Central incisor
- Lateral incisor
- Canine (cuspid)
- First premolar (first bicuspoid)
- Second premolar (second bicuspoid)
- First molar
- Second molar
- Third molar (wisdom tooth)

Lower Teeth
- Third molar (wisdom tooth)
- Second molar
- First molar
- Second premolar (second bicuspoid)
- First premolar (first bicuspoid)
- Canine (cuspid)
- Lateral incisor
- Central incisor

Erupt
- 7-8 yrs.
- 8-9 yrs.
- 11-12 yrs.
- 10-11 yrs.
- 10-12 yrs.
- 6-7 yrs.
- 12-13 yrs.
- 17-21 yrs.
- 17-21 yrs.
- 11-13 yrs.
- 6-7 yrs.
- 11-12 yrs.
- 10-12 yrs.
- 9-10 yrs.
- 7-8 yrs.
- 6-7 yrs.
Eruption

6 to 7 years

7 to 8 years

8 to 9 years

9 to 10 years

10 to 12 years

11 to 13 years

17 to 21 years
Function

incisors

bicuspids (premolars)

molars

cuspids
Tooth Numbering System

Permanent Dentition

- A number from 1-32 identifies each tooth in sequential order across both arches.

  - Tooth #1 is the upper right third molar, and numbering continues across the upper arch to the upper left third molar, #16.

  - Tooth #17 is the lower left third molar and this sequence continues around the lower arch to the patient’s lower right third molar, #32.
Quadrant

- One of four equal sections into which the dental arches can be divided. Each quadrant begins at the midline of the arch and extends distally (back) to the last tooth.
Tooth Surfaces

- **Mesial**: toward the midline of the dental arch.
- **Distal**: toward the back of the dental arch, away from the midline.
- **Lingual**: closest to the tongue.
- **Facial**: near the cheek:
  - **Labial**: anteriors
  - **Buccal**: posteriors
Tooth Surfaces, Cont.

- **Occlusal**: top (biting) surfaces of premolars and molars.
- **Incisal**: thin biting surface of incisors and cuspids.
Dental disease
Decay

- Contributing factors
- Demineralization
- Remineralization
- Fluoride
- Risk assessment
- Management
How Does Decay Develop?

**PLAQUE** a sticky patch of bacteria,* saliva, food & tissue cells on the tooth.

* *Streptococcus mutans* bacteria found in the mouth primarily involved in the decay process.

**Food** sugars are processed by *S. mutans*.

**Tooth** acids are produced and start eating away at the tooth.
Plaque + Food + Tooth = Decay

Bacteria: *S. mutans*
Progression of Decay
Early Childhood Caries (ECC)

• Presence of 1 or more carious lesions, missing (due to caries) or filled tooth surfaces in any primary tooth in a child 71 months of age or younger.
Early Childhood Caries ECC (cont’d)

• 4-20 teeth involved
• Caries that have possibly exposed pulps
• Possible dental abscesses
• Acute/chronic pain
Early Childhood Caries (ECC) (cont’d)

- Higher risk of new carious lesions in both primary and permanent teeth
- Hospitalization and ER visits
- Increased treatment costs and time
- Delay in physical development
- Loss of school days
- Increased days of restricted activity
- Diminished ability to learn
- Diminished oral health related quality of life

Reference Manual AAPD, 2004
Treatment of ECC

- Multiple stainless steel crowns
- Composite restorations
- Extractions
- Space maintainers
- Possibly treatment in a hospital setting
Risk Assessment

“A diagnostic process where clinical, historical and social risk factors are used to determine the likelihood whether a child will have dental disease.”
Risk Assessment-Relapse Factor of ECC

• 79% of ECC children compared w/29% of non-ECC children developed new carious lesions at subsequent recall visits.

• 1/5 of ECC children treated under general anesthesia required retreatment within 2 years.
### AAPD Caries Risk Assessment Tool (CAT)

**AAPD Caries Risk Assessment Tool (CAT)**

- **http://www.aapd.org/members/referencemanual/pdfs/02-03/P_CariesRiskAssess.pdf**

<table>
<thead>
<tr>
<th>Caries Risk Indicators</th>
<th>Low Risk</th>
<th>High Risk</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Clinical conditions</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>No cavities seen in past 6 months</td>
<td>Yes/No</td>
<td>Yes/No</td>
</tr>
<tr>
<td>No severe oral hygiene problems (e.g., plaque, gingivitis)</td>
<td>Yes/No</td>
<td>Yes/No</td>
</tr>
<tr>
<td><strong>Environmental characteristics</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Optimal systemic health with no antibiotic exposure</td>
<td>Yes/No</td>
<td>Yes/No</td>
</tr>
<tr>
<td>Consumption of sugar sweetened beverages less than 1 drink per day</td>
<td>Yes/No</td>
<td>Yes/No</td>
</tr>
<tr>
<td>High cervical spine x-ray or CT scan</td>
<td>Yes/No</td>
<td>Yes/No</td>
</tr>
<tr>
<td>Use of dental care in a suitable dental setting</td>
<td>Yes/No</td>
<td>Yes/No</td>
</tr>
</tbody>
</table>

*Note: The tool assesses factors that may influence the risk of caries development.*

**Variables:**
- **Clinical conditions:** Factors related to the individual's oral health, such as the presence or absence of cavities, oral hygiene, and dietary habits.
- **Environmental characteristics:** Factors related to the individual's environment, such as systemic health, antibiotic use, and dietary habits.

**Caries Risk Indicators:**
- **Low Risk:** Indicators that are typically associated with a lower risk of caries development.
- **High Risk:** Indicators that are typically associated with a higher risk of caries development.

**Recommended Actions:**
- **Low Risk:** Continue with regular dental visits and good oral hygiene practices.
- **High Risk:** Consider additional preventive measures, such as fluoride treatments or sealants.

**Additional Considerations:**
- **Systemic Health:** Consider the individual's overall health and any systemic conditions that may affect caries risk.
- **Antibiotic Use:** Be aware of recent antibiotic use, as it may affect oral health.

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*Note: The tool is designed to be used as a risk assessment tool and should not replace professional dental advice.*
## Recommendations for Pediatric Oral Health Care

The American Academy of Pediatric Dentistry (AAPD) emphasizes the importance of early and professional intervention and the continuity of care based on the individual needs of the child. These recommendations are designed for the care of children who have no contributing medical conditions and are developing normally. They will need to be modified for children with special health care needs or whose behaviors or development are different from normal.

<table>
<thead>
<tr>
<th>Age</th>
<th>6-12 months</th>
<th>12-24 months</th>
<th>2-4 years</th>
<th>6-12 years</th>
<th>12 years and older</th>
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<tbody>
<tr>
<td>Clinical evaluation*</td>
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<td>•</td>
<td>•</td>
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<tr>
<td>Assay of growth and development*</td>
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<td>•</td>
<td>•</td>
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</tr>
<tr>
<td>Craniofacial assessment*</td>
<td>•</td>
<td>•</td>
<td>•</td>
<td>•</td>
<td>•</td>
</tr>
<tr>
<td>Prophylaxis and topical fluoride treatment*</td>
<td>•</td>
<td>•</td>
<td>•</td>
<td>•</td>
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</tr>
<tr>
<td>Fluoride application*</td>
<td>•</td>
<td>•</td>
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<td>•</td>
<td>•</td>
</tr>
<tr>
<td>Anticipatory guidance*</td>
<td>•</td>
<td>•</td>
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<td>•</td>
<td>•</td>
</tr>
<tr>
<td>Dental counseling*</td>
<td>•</td>
<td>•</td>
<td>•</td>
<td>•</td>
<td>•</td>
</tr>
<tr>
<td>Interceptive counseling*</td>
<td>•</td>
<td>•</td>
<td>•</td>
<td>•</td>
<td>•</td>
</tr>
<tr>
<td>Counseling for non-carious lesions*</td>
<td>•</td>
<td>•</td>
<td>•</td>
<td>•</td>
<td>•</td>
</tr>
<tr>
<td>Substitute dental appliances*</td>
<td>•</td>
<td>•</td>
<td>•</td>
<td>•</td>
<td>•</td>
</tr>
<tr>
<td>Counseling for intraoral periodontal disease*</td>
<td>•</td>
<td>•</td>
<td>•</td>
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<td>•</td>
</tr>
<tr>
<td>Radiographic assessment*</td>
<td>•</td>
<td>•</td>
<td>•</td>
<td>•</td>
<td>•</td>
</tr>
<tr>
<td>Treatment of dental disease/decay*</td>
<td>•</td>
<td>•</td>
<td>•</td>
<td>•</td>
<td>•</td>
</tr>
<tr>
<td>Assessment and treatment of developing malocclusions*</td>
<td>•</td>
<td>•</td>
<td>•</td>
<td>•</td>
<td>•</td>
</tr>
<tr>
<td>Fluoride applications*</td>
<td>•</td>
<td>•</td>
<td>•</td>
<td>•</td>
<td>•</td>
</tr>
<tr>
<td>Assessment and/or removal of third molar*</td>
<td>•</td>
<td>•</td>
<td>•</td>
<td>•</td>
<td>•</td>
</tr>
</tbody>
</table>
| Referral for regular orthodontic care* | • | • | • | • | • |• [http://www.aapd.org/media/policies.asp](http://www.aapd.org/media/policies.asp)
RECOGNIZING EARLY DECAY

WHITE SPOT LESIONS

Subsurface demineralization
Subsurface Lesion/demineralization

Body of subsurface lesion

Plaque

Intact enamel

Advancing Lesion

Peter Milgrom DDS
Northwest/Alaska Center to Reduce Oral Health Disparities
University of Washington, Seattle
Remineralization

Plaque

Intact enamel

Remineralization
Baby Bottle Tooth Decay
(Nursing Caries)

Mild

Peter Milgrom DDS
University of Washington, Seattle
Baby Bottle Tooth Decay
(Nursing Caries)

Moderate

Peter Milgrom DDS
University of Washington, Seattle
Baby Bottle Tooth Decay
(Nursing Caries)

Severe

Peter Milgrom DDS
University of Washington, Seattle
Caries Risk Analysis (young children)

- There is visible plaque on the teeth.
- There are cavities, white spots or enamel hypoplastic areas on the teeth.
- There is a history of decay in the family.
- The child is low birth weight or premature.
Caries Risk Analysis

• Untreated cavities in last 2 yrs
• Orthodontics or removable partials
• Reduced salivary flow or medications that reduce saliva
• Frequency of carbohydrate intake
• Fluoride use
What We Know

- Transmissibility
- Fluoride effectiveness
- Bacterial challenge
- Restoration
- And...
Breaking the Chain

- Risk assessment
- Early detection
- Fluoride and other antibacterial therapy
- Sealants
- Minimally invasive restorative techniques
ONGOING BALANCE

Protective Factors
Salivary flow
Proteins
Fluoride

Pathologic Factors
Strep mutans
Carbohydrates
Reduced salivary flow

No caries
Caries
Oral Health Disparities

• Tooth decay is the most prevalent chronic disease of childhood—5 times more frequent than asthma.

• 25% of children suffer 80% of all tooth decay.
Periodontal Disease
Healthy Gums
Periodontitis

www.dentalgentlecare.com-Dr. Dan Peterson
Advanced Periodontitis
Restoring Carious and Missing Teeth
Black's Classification of Caries

• **Class I.**
  - Cavities occurring in pit and fissure defects in occlusal surfaces of bicuspids and molars, lingual surfaces of upper incisors, and facial and lingual grooves sometimes found on occlusal surfaces of molar teeth.
Black's Classification of Caries, cont.

• **Class II.**
  - Cavities in proximal surfaces of bicuspids and molars.

• **Class III.**
  - Cavities in proximal surfaces of incisors and cuspids not requiring removal of incisal angle.
Black’s Classification of Caries, cont.

- **Class IV.**
  - Cavities in proximal surfaces of incisors and cuspids that require removal of incisal angle.

- **Class V.**
  - Cavities in gingival third of labial, lingual, or buccal surfaces.
Amalgam Fillings

MO/DOL

MOD

DO
Composite Fillings
Crowns
Fixed Bridge

Crown → Crown

PREPARED TEETH
Endodontics
root canals

http://www.doctorspiller.com
Implants
Partial Denture
Denture
Orthodontics
Orthodontic Assessments


- Ohio:
  http://emanuals.ohio.gov/emanuals/medicaid/DEN/ebtlink;cs=default;ts=default;pt=3790?target=IDMATCH(ID,O DHS3630);book=
Diagnosis
Bitewing X-Rays

Interproximal view of the coronal portion of the tooth
Bitewing Xrays
Full Mouth X-Rays
Full Mouth Xrays
Panorex
Periapical Xrays
<table>
<thead>
<tr>
<th>Type</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Bitewing</td>
<td>cavity detecting</td>
</tr>
<tr>
<td>Full mouth</td>
<td>pa’s &amp; bitewings</td>
</tr>
<tr>
<td>Occlusal</td>
<td>palate &amp; floor of the mouth</td>
</tr>
<tr>
<td>Panorex</td>
<td>teeth &amp; general area</td>
</tr>
<tr>
<td>Periapical (PA)</td>
<td>single film, shows root</td>
</tr>
</tbody>
</table>
Transillumination

Transillumination enables you into see fractures, caries, subgingival calculus, root canal openings and more. Transillumination is an easy, inexpensive and fast diagnostic tool you will soon find to be indispensable in your practice!
Laser Fluorescence
DIAGNOdent has the great advantage of detecting caries in the very early stage by measuring the laser fluorescence within the tooth structure.

Precise results without x-ray exposure.
Dentists!...and the business of dentistry
Dentist Specialty Boards

- Public Health
- Endodontics
- Oral and Maxillofacial Pathology
- Oral and Maxillofacial Radiology
- Oral and Maxillofacial Surgery
- Pedodontics
- Periodontics
- Prosthodontics
- Orthodontics
Dental Specialties

• Endodontics: CDT-5 codes D3000-D3999, the treatment of the pulp and periapical tissues.
• Oral Surgery: CDT-5 codes D7000-D7999, the surgical treatment of the oral/facial region.
• Orthodontics: CDT-5 codes D8000-D8999, treatment related to the jaw, position of the teeth and the oral and facial muscles:
  - Concerned with function and appearance.
Dental Specialties, Cont.

- Periodontics: CDT-5 codes D4000-D4999 treatment of diseases of the supporting structures of the teeth.
- Prosthodontics: extensive restorations of teeth using crowns, bridges and replacement of missing teeth:
  - Removable prosthodontics: CDT-5 codes D5000-D5899 restorations that can be removed.
  - Fixed prosthodontics: CDT-5 codes D2710-D2799 & D6200-D6999, are restorations that can not be removed (implant related).
Who They Are

“General Dentist: is an individual who has successfully completed from a dental training leading to a DDS or DMD degree, which qualifies that individual to be licensed to accept the professional responsibility for the diagnosis, treatment management, and overall coordination of services that meet patients’ oral health needs, and who has not announced a limitation of practice to any specialty areas recognized by the ADA.”
Who They Are (cont’d)

“Pediatric dentistry is an age-defined dental specialty that provides both primary and comprehensive preventive and therapeutic oral health care for infants and children through adolescence, including those with special health care needs.”
Factoids

• 79% Graduates are general practitioners
• 21% Graduates are specialists
  - Pedodontists <3% practicing dentists
    • Provide approx. 30% of children’s oral health care
    • Provide a disproportionate amount of care to children covered by Medicaid and SCHIP
### ADEA Dental Education at a Glance

<table>
<thead>
<tr>
<th>Number of Dental Residents and Students (Total All Years)</th>
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</thead>
<tbody>
<tr>
<td><strong>Dental Students</strong></td>
</tr>
<tr>
<td>---------------------</td>
</tr>
<tr>
<td>17,800</td>
</tr>
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</table>

<table>
<thead>
<tr>
<th>First-Year Students at U.S. Dental Schools</th>
</tr>
</thead>
<tbody>
<tr>
<td>4,448</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Total Applicants to U.S. Dental Schools</th>
</tr>
</thead>
<tbody>
<tr>
<td>Est. 7,987</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Graduates Per Year in the U.S. Dental Schools</th>
</tr>
</thead>
<tbody>
<tr>
<td>4,349</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Numbers of Underrepresented Minorities in U.S. Dental Schools</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Black/African American</strong></td>
</tr>
<tr>
<td>-----------------------------</td>
</tr>
<tr>
<td>972 (5.4%)</td>
</tr>
</tbody>
</table>
## Specialty Training

### U.S. Accredited Dental Residency Training Programs and Stipends 2003*

<table>
<thead>
<tr>
<th>Programs</th>
<th>Total 1st yr positions</th>
<th>1st yr school-based positions</th>
<th>1st yr hospital-based positions</th>
<th>Total Number of Residents</th>
</tr>
</thead>
<tbody>
<tr>
<td>726</td>
<td>2,838</td>
<td>1,415</td>
<td>1,423</td>
<td>5,257</td>
</tr>
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</table>

<table>
<thead>
<tr>
<th>Accredited Residency Programs</th>
<th>Number of Programs</th>
<th>Total Number Residents</th>
<th>1st year Average Tuition</th>
<th>1st year Average Stipend</th>
<th>Average Length (Months)</th>
</tr>
</thead>
<tbody>
<tr>
<td>School</td>
<td>Hospital</td>
<td>School</td>
<td>Hospital</td>
<td></td>
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</tr>
<tr>
<td>Dental Public Health</td>
<td>10</td>
<td>33</td>
<td>10</td>
<td>$7,765</td>
<td>$24,807</td>
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<tr>
<td>Endodontics</td>
<td>42</td>
<td>362</td>
<td>44</td>
<td>$14,340</td>
<td>$15,866</td>
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<td>General Dentistry AEGD</td>
<td>45</td>
<td>311</td>
<td>354</td>
<td>$358</td>
<td>$31,664</td>
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<tr>
<td>General Practice Residency</td>
<td>27</td>
<td>148</td>
<td>894</td>
<td>$458</td>
<td>$37,772</td>
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<td>Oral Maxillofacial (OM) Surgery</td>
<td>43</td>
<td>452</td>
<td>431</td>
<td>$3,273</td>
<td>$35,748</td>
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<td>OM Pathology</td>
<td>7</td>
<td>17</td>
<td>14</td>
<td>$7,610</td>
<td>$17,559</td>
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<td>OM Radiology</td>
<td>4</td>
<td>13</td>
<td>0</td>
<td>$11,804</td>
<td>$8,915</td>
</tr>
<tr>
<td>Orthodontics/Dentofacial Orthopedics</td>
<td>49</td>
<td>627</td>
<td>410</td>
<td>$15,413</td>
<td>$13,502</td>
</tr>
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<td>38</td>
<td>26</td>
<td></td>
<td></td>
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<tr>
<td>Prosthodontics (all types)</td>
<td>46</td>
<td>453</td>
<td>54</td>
<td>$12,676</td>
<td>$16,315</td>
</tr>
<tr>
<td>43</td>
<td>9</td>
<td></td>
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<tr>
<td>Clinical Fellowship</td>
<td>0</td>
<td>6</td>
<td>0</td>
<td>7</td>
<td>7</td>
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<tr>
<td>Totals</td>
<td>354</td>
<td>3,138</td>
<td>2,119</td>
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</table>

*Source: 2002/2003 Survey of Advanced Dental Education, American Dental Association

<table>
<thead>
<tr>
<th>Specialty</th>
<th>Percent</th>
<th>Responsibility</th>
</tr>
</thead>
<tbody>
<tr>
<td>General Dentistry</td>
<td>79.7%</td>
<td>Diagnoses and treats teeth and gums</td>
</tr>
<tr>
<td>Orthodontist</td>
<td>6.2%</td>
<td>Straightens teeth</td>
</tr>
<tr>
<td>Oral and Maxillofacial Surgeon</td>
<td>3.3%</td>
<td>Operates on mouth and jaws</td>
</tr>
<tr>
<td>Endodontist</td>
<td>2.1%</td>
<td>Provides root canal therapy</td>
</tr>
<tr>
<td>Pediatric Dentist</td>
<td>2.0%</td>
<td>Diagnoses and treats children</td>
</tr>
<tr>
<td>Prosthodontist</td>
<td>1.8%</td>
<td>Makes artificial teeth and dentures</td>
</tr>
<tr>
<td>Periodontist</td>
<td>1.6%</td>
<td>Treats gums and bone</td>
</tr>
<tr>
<td>Public Health Dentists</td>
<td>0.4%</td>
<td>Prevents and controls dental disease through community-wide efforts</td>
</tr>
<tr>
<td>Oral Pathologist</td>
<td>0.3%</td>
<td>Studies oral diseases</td>
</tr>
<tr>
<td>Other</td>
<td>2.6%</td>
<td>Not previously listed</td>
</tr>
</tbody>
</table>

*Source: Dentist Survey, Minnesota Health Services Personnel Survey, 2001.*
## Dental Specialists in Kansas, 2000

<table>
<thead>
<tr>
<th>Specialty</th>
<th>Count</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>Endodontics</td>
<td>22</td>
<td>1.7%</td>
</tr>
<tr>
<td>General Dentistry</td>
<td>1,075</td>
<td>84.7%</td>
</tr>
<tr>
<td>Orthodontics</td>
<td>68</td>
<td>5.4%</td>
</tr>
<tr>
<td>Oral Surgery</td>
<td>46</td>
<td>3.6%</td>
</tr>
<tr>
<td>Pediatrics</td>
<td>21</td>
<td>1.7%</td>
</tr>
<tr>
<td>Public Health</td>
<td>0</td>
<td>0.0%</td>
</tr>
<tr>
<td>Periodontics</td>
<td>29</td>
<td>2.3%</td>
</tr>
<tr>
<td>Prosthodontics</td>
<td>8</td>
<td>0.6%</td>
</tr>
<tr>
<td>Teaching</td>
<td>0</td>
<td>0.0%</td>
</tr>
<tr>
<td><strong>Dentist Total</strong></td>
<td>1,269</td>
<td>100.0%</td>
</tr>
</tbody>
</table>
Wisconsin Counties with at Least One Pediatric Dentist
HIPAA Impact

- Standardized code sets (CDT5)
- Standardized electronic billing (837d)
- Movement towards standardized paper claim (ADA2002)
CDT Coding

“Current Dental terminology, fifth edition (CDT-5)...is effective for services provided on or after January 1, 2005...has been designated as the national standard for reporting dental services by the Federal Government under HIPAA...”
<table>
<thead>
<tr>
<th>Service</th>
<th>CDT Code</th>
</tr>
</thead>
<tbody>
<tr>
<td>Diagnostic</td>
<td>D0100-D0099</td>
</tr>
<tr>
<td>Preventive</td>
<td>D1000-D1999</td>
</tr>
<tr>
<td>Restorative</td>
<td>D2000-D2999</td>
</tr>
<tr>
<td>Endodontics</td>
<td>D3000-D3999</td>
</tr>
<tr>
<td>Periodontics</td>
<td>D4000-D4999</td>
</tr>
<tr>
<td>Prosthetics Removable</td>
<td>D5000-D5899</td>
</tr>
<tr>
<td>Maxillofacial Prosthetics</td>
<td>D5900-D5999</td>
</tr>
<tr>
<td>Implant services</td>
<td>D6000-D6199</td>
</tr>
<tr>
<td>Prosthodontics, fixed</td>
<td>D6200-D6999</td>
</tr>
<tr>
<td>Oral and maxillofacial surgery</td>
<td>D7000-D7999</td>
</tr>
<tr>
<td>Orthodontics</td>
<td>D8000-D8999</td>
</tr>
<tr>
<td>Adjunctive General Services</td>
<td>D9000-D9999</td>
</tr>
</tbody>
</table>
Dental Practice

• Solo/start-up
• Associate
• Income
Start-up Costs-MN

Table 3: Private Practice Start-Up Costs

<table>
<thead>
<tr>
<th>Type of Expense</th>
<th>“Scratch Practice” (Costs in Thousands)*</th>
<th>Existing Practice (Costs in Thousands)*</th>
</tr>
</thead>
<tbody>
<tr>
<td>Office Space</td>
<td>$120 - $180</td>
<td>50 – 65% of annual gross revenues depending on practice size and location.</td>
</tr>
<tr>
<td>Operatory Equipment</td>
<td>$60 - $120</td>
<td></td>
</tr>
<tr>
<td>Computer, Lab, and Office Supplies</td>
<td>$30 - $50</td>
<td></td>
</tr>
<tr>
<td><strong>Totals</strong></td>
<td><strong>$210 - $350</strong></td>
<td><strong>$160 - $320</strong></td>
</tr>
</tbody>
</table>

*Costs are approximate average values based on estimations from Shea Practice Transitions, P.A. and calculated from an average gross revenue of $320,000 for general practitioners and $490,000 for specialists. A “Scratch Practice” is a practice built from the ground up rather than from a previously existing practice. It is likely that in some rural areas costs of establishing a start-up practice could be much lower depending on the location in the state and whether the practice is set up in space leased from an office building or in a building owned by the dentist.
Associate
General Compensation Formula
(Production Based)

Gross Production
  - Adjustments
  - Uncollectibles (Charge Back)

Collections
  - Lab Charges
  - ((Professional expenses))

Income Produced
  Apply percentage (30% - 35%)
  - Professional expenses)

Net (Spendable) Income (before taxes)

Associateship Arrangements in Dental Practice-Dave Willis, DMD, MBA, CFP
Associate—Let’s add the numbers

Assume salary based on 30% of collections
Assume 95% collection rate
Assume 10+ percent lab fee rate
Associate—Let’s add the numbers

• If salary desired is $100,000
• Then $315,000 needed assuming 95% collection.
• Add $35,000 to accommodate lab fees.
• Total production of $350,000 = $100,000 salary
## Dental School Debt

<table>
<thead>
<tr>
<th>Category</th>
<th>Average Debt of all Students upon Graduation</th>
<th>Average Debt of Students with Debt upon Graduation</th>
</tr>
</thead>
<tbody>
<tr>
<td>All Dental Schools</td>
<td>$118,750</td>
<td>$132,532</td>
</tr>
<tr>
<td>Public</td>
<td>$93,622</td>
<td>$103,149</td>
</tr>
<tr>
<td>Private/State related</td>
<td>$147,950</td>
<td>$167,676</td>
</tr>
</tbody>
</table>
Medical School Debt

Mean Level of Educational debt for medical school graduates in 2002

• 19% of medical students had no debt
• $91,389 for public schools
• $123,780 for private schools

www.amsa.org
Dentist/Physician Income Comparison

On average, general dentists in 2000, the most recent year for which comparative data are available, earned $166,460…

Wall Street Journal April 05:Careers
Dentist/Physician Income Comparison

-compared with $164,100 for general internal-medicine doctors, $145,700 for psychiatrists, $144,700 for family-practice physicians, and $137,800 for pediatricians. All indications are that dentists have at least kept pace with physicians since then...

Wall Street Journal April 05:Careers
Dentist/Physician Income Comparison

ADA estimates work hour per week for dentists approximately 40 hours

AMA estimates work hour per week for physicians 50-55

Income difference is understated

Wall Street Journal April 05: Careers
Policy Drivers - The Dark Side

- Pay
- Paperwork
- Patients
Policy Drivers-The Dark Side

- Pay
  - percent
  - percentile
  - capitation
  - co-pays
  - coverage
Policy Drivers-The Dark Side

- Paperwork
  - prior authorization
  - claims
  - coverage
Policy Drivers-The Dark Side

• Patients
  - attendance
  - compliance
  - complicated
Policy Drivers—The Dark Side—one day’s schedule

- 12 scheduled, 2 no-shows
- 10 smokers
- 8 taking more than 1 medication
- 2 not taking scheduled medication
- 1 drug seekers
Policy Drivers-The Dark Side

• Dental offices are single owner or small group
• May not have dedicated billing staff/paper shops?
Policy Drivers-The Dark Side

- Service insurance with limited and very defined benefits
- May be cash only business
- Poor electronic interface between office and claims processor
Policy Drivers

- Existing policy
- Budget constraints
- Political drivers—Governor/legislature
- Fraud and Audit
Reimbursement

Provider

Competing Programs

Consumer

Agency

Politics

Court Rulings

FED/State Rules

= All over the map
Fraud/Audit
Upcoding

- **D7140**-extraction, erupted tooth or exposed root (elevation and/or forceps removal.
- **Wisconsin fee** $39.37
- **D7210**-surgical removal of erupted tooth requiring elevation of mucoperiosteal flap and removal of bone and/or section of tooth. Includes cutting of gingiva and bone, removal of tooth structure and closure.
- **Wisconsin Fee** $85.54
Upcoding

Occlusal-Billed as OBL
D2140-$32.75

Actual OBL
D2160-$52.67
Avoid Fraud

- Evaluating mobile providers of nursing-home dental care
  - Appropriate services for elderly or edentulous patients compared to services delivered
  - Approximate time required to perform patient care - to compare workload and claims volume
Avoid Fraud

- Clear Policy
- **Objective guidelines/handbook**
  - *Measurable clinical data*
    - x-rays, crown root ratios, clinical notes
- **Clinical audits**
- **Post-pay audit**
Policy Drivers
Existing Thought

• The traditional treatment is repair of the damage produced by the disease without identification of the causative agent. We are only treating the terminal end of the disease!
Policy Drivers

- Evidenced base
- Outcome based
- Disease management
- Clinical and utilization data
Examples of Use of Basic Clinical Knowledge in Policymaking

• Reimbursing fluoride varnish applied in primary-care settings
  - Dental disease process, role of fluoride
  - Development of primary and permanent dentition
  - Patient utilization of medical vs. dental care for very young children
  - Cost of fluoride vs. treatments for decayed primary teeth (e.g. prefab SSC crowns, sedation)
Examples of Use of Basic Clinical Knowledge in Policymaking

- Cost of urgent/emergent care in non-dental settings
Examples of Use of Basic Clinical Knowledge in Policymaking

• Other health costs related to lack of dental services
  - low birth outcomes
  - aspiration pneumonia in medically compromised patients
  - diabetes
  - heart disease
  - ?
Medicaid Systems & Provider Billing

- Standardized code set (CDT5)
- Make Medicaid policies for billing as close to those of private dental insurance as possible
- Keep handbook/policies updated, communicate changes to staff
- Communicate eligibility requirements/changes to billing and registration staff
Hot topics

Fuego, Antigua, Guatemala, March 26, 2002
ART
fluoride varnish, xylitol,
evidence based outcomes

Bob March 25, 2002
Overcoming obstacles to access
Urgent Care Dental In-State Emergency Provider Data Sheet

- Mechanism for non-certified providers to provide urgent care
- Intended to alleviate an urgent need, not limited to one tooth
- Intended to reduce backlog of urgent needs
- Complete data sheet/ADA claim form
**URGENT CARE DENTAL IN-STATE EMERGENCY PROVIDER DATA SHEET**

Wisconsin Medicaid requires information to enable Medicaid to provide temporary certification and to authorize and pay for dental services provided to eligible recipients.

A Dental Provider's personally identifiable information is used for purposes directly related to Medicaid administration such as determining the temporary certification of providers or processing provider claims for reimbursement. Failure to supply the information requested by the form may result in denial of Medicaid payment for the services.

You are considered a Medicaid provider only for purposes of the care provided to the recipient indicated below on the date indicated below ("the care"). By submitting a bill for Medicaid payment for the care, you agree to keep records disclosing the extent of the care and Medicaid payments claimed for the care and, upon request, to furnish to state or federal Medicaid authorities any such records. Under state and federal laws, by accepting Medicaid payment for the care you are prohibited from seeking payment from the recipient, or other person on behalf of the recipient, even if there is a difference between your normal charge and the Medicaid payment for the care.

**INSTRUCTIONS:** Complete this data sheet for whoever performed dental services on a Wisconsin Medicaid recipient. This is required in order to submit claims for urgent dental services. Attach this data sheet to ADA 2000 or CMS 1500 claim form.

In order to be reimbursed for services provided, Wisconsin Medicaid must receive correct and complete claims, including resubmissions and adjustments, within 365 days from the date of service.

Submit completed form with attachments to:

Wisconsin Medicaid
In-State Emergency Claims
6459 Bridge Rd
Madison, WI 53784-0011

Important: For a provider to be paid for services, the provider must verify recipient eligibility. This can be done by calling the Eligibility Hotline at (800) 947-9627.

<table>
<thead>
<tr>
<th>Name — Provider</th>
<th>Telephone Number — Provider</th>
</tr>
</thead>
<tbody>
<tr>
<td>Address — Provider (where services are rendered)</td>
<td></td>
</tr>
</tbody>
</table>

| Name — Payee (to whom checks are made payable) |
| Address — Payee (where checks are to be sent) |

| Payee's: | Federal Identification/IRS Number: | Social Security Number: |
| License Number |

| Name — Recipient | Recipient Medicaid Number |

I affirm that services provided are medically indicated and necessary to the patient's health. The services are within the scope of my (our) licensure. I understand that any false claims, settlements, documents, or concealment of material fact may be prosecuted under applicable federal and state law. I further affirm that to the best of my knowledge the information presented here is accurate and complete.

**SIGNATURE** — Provider or authorized agent of institution

| Date Signed |

If you have any questions, call Wisconsin Medicaid Provider Services at (800) 947-9627.
<table>
<thead>
<tr>
<th>CODE</th>
<th>DESCRIPTION</th>
</tr>
</thead>
<tbody>
<tr>
<td>D0140</td>
<td>Limited oral evaluation — problem focused</td>
</tr>
<tr>
<td>D0220, D0230</td>
<td>Introral — periapical film</td>
</tr>
<tr>
<td>D0250</td>
<td>Extracoral first</td>
</tr>
<tr>
<td>D0260</td>
<td>Extracoral — each additional film</td>
</tr>
<tr>
<td>D0270</td>
<td>Bitewing single film</td>
</tr>
<tr>
<td>D0330</td>
<td>Panoramic film</td>
</tr>
<tr>
<td>D2140-D2394</td>
<td>Restorative services</td>
</tr>
<tr>
<td>D2930</td>
<td>Prefabricated stainless steel crown — primary tooth</td>
</tr>
<tr>
<td>D2951</td>
<td>Prefabricated stainless steel crown — permanent tooth</td>
</tr>
<tr>
<td>D2952</td>
<td>Prefabricated resin crown</td>
</tr>
<tr>
<td>D2940</td>
<td>Sedative filling</td>
</tr>
<tr>
<td>D3220</td>
<td>Therapeutic pulpotomy (excluding final restoration) — removal of pulp coronal</td>
</tr>
<tr>
<td></td>
<td>to the dentinocementum and application of medication</td>
</tr>
<tr>
<td>D3221</td>
<td>Gross pulpotomy; extracoration, primary and permanent teeth</td>
</tr>
<tr>
<td>D9110</td>
<td>Palliative (emergency) treatment dental pain — minor procedure</td>
</tr>
<tr>
<td>D5510</td>
<td>Repair broken complete denture base</td>
</tr>
<tr>
<td>D5520</td>
<td>Replace missing or broken tooth — complete denture (each tooth)</td>
</tr>
<tr>
<td>D5610</td>
<td>Repair resin denture base</td>
</tr>
<tr>
<td>D7110, D7140</td>
<td>Extractions</td>
</tr>
<tr>
<td>D7210, D7220, D7230, D7240</td>
<td>Surgical extractions</td>
</tr>
<tr>
<td>D7250</td>
<td>Surgical removal of residual tooth roots (cutting procedure)</td>
</tr>
<tr>
<td>D7240</td>
<td>Orofacial fistula closure</td>
</tr>
<tr>
<td>D7270</td>
<td>Tooth reimplantation and/or stabilization of accidentally erupted tooth and/</td>
</tr>
<tr>
<td></td>
<td>or alveolus</td>
</tr>
<tr>
<td>D7510</td>
<td>Incision and drainage of abscess — introral soft tissue</td>
</tr>
<tr>
<td>D7520</td>
<td>Incision and drainage of abscess — extracoral soft tissue</td>
</tr>
<tr>
<td>D7610-D7780</td>
<td>Treatment of fractures</td>
</tr>
<tr>
<td>D7820</td>
<td>Closed reduction of dislocation</td>
</tr>
<tr>
<td>D7830</td>
<td>Manipulation under anesthesia</td>
</tr>
<tr>
<td>D7910-D7912</td>
<td>Sutures</td>
</tr>
<tr>
<td>D9220</td>
<td>General anesthesia — first 30 minutes</td>
</tr>
<tr>
<td>D9240</td>
<td>Non-intravenous conscious sedation</td>
</tr>
<tr>
<td>D9241</td>
<td>Intravenous sedation/analgesia — first 30 minutes</td>
</tr>
<tr>
<td>D9420</td>
<td>Hospital call</td>
</tr>
</tbody>
</table>
Websites

- http://www.aapd.org/media/policies.asp
- http://dhfs.wisconsin.gov/Medicaid/index.htm?ref=hp
- http://www.wphca.org/Wisconsin%20MA%20Dental%20Facts%202003.pdf
WISCONSIN MEDICAID AND BADGERCARE
Wisconsin Medicaid and BadgerCare Information for Providers

March 2004 • No. 2004-19

To:
Dentists
HMOs and Other Managed Care Programs

WISCONSIN MEDICAID ACCEPTING ADA 2002 AND 2000 CLAIM FORMS

Effective immediately, Wisconsin Medicaid accepts the ADA 2002 and 2000 claim forms. Wisconsin Medicaid does not accept claims on the ADA 1994 claim form; claims submitted on this claim form are denied.

ADA 2002 and 2000 CLM FORMS NOW ACCEPTED BY WISCONSIN MEDICAID

Effective immediately, Wisconsin Medicaid accepts the American Dental Association’s ADA 2002 and 2000 claim forms. Submit completed claims according to the instructions specific to the claim form. Refer to Attachments 1-4 of this Wisconsin Medicaid and BadgerCare Update for the ADA 2002 and 2000 claim form completion instructions and sample claims.

The ADA 2002 claim form instructions are included as a convenience for providers and do not replace the information in the July 2003 Update (2003-50), titled “Changes to local codes, paper claims, and prior authorization for dental services as a result of HIPAA.” Providers should retain Update 2003-50 for their reference.

Wisconsin Medicaid’s claim instructions vary from the ADA instructions. The variations are necessary for Wisconsin Medicaid to process claims. Providers are required to complete the elements in the Wisconsin Medicaid instructions found in Attachments 1 and 3 as appropriate. No other claim form elements are required. In addition, providers are not required to include attachments to the claim form unless instructed to do so in the Dental Services Handbook.

Mail completed paper claims to:

Wisconsin Medicaid
Claims and Adjustments
6406 Bridge Rd
Madison WI 53784-0002

Note: As stated in Update 2003-50, Wisconsin Medicaid does not accept the ADA 1994 claim form. Claims submitted on this claim form are denied.

ORDER ADA CLAIM FORMS

Wisconsin Medicaid does not provide the ADA claim forms. To order the ADA 2002 or 2000 claim forms, do one of the following:

• Call the American Dental Association at (800) 947-4746.
• Order online at www.adacatalog.org/
Thank-you!

Robert Dwyer, DDS
Chief Medical Officer
Division of Health Care Financing
dwyerra@dhfs.state.wi.us
608.264.6754
“you have questions?”