SYSTEMATIC APPROACH TO ORTHODONTIC DIAGNOSIS

DENT 656
ORTHODONTIC CLASSIFICATION / DIAGNOSIS

• Goal of diagnosis: An *orderly* reduction of the “data base” to a *useful* list of the patient’s problems
• Useful??
• Concise and accurate description of the problem/s
• Conducive to planning of corrective treatment
Questionnaire, Interview → Data Base
Clinical Examination → Data Base
Analysis of Diagnostic Records → Data Base
Data Base → Classification
Classification → Problem List = Diagnosis
Angle’s Classification

• Simple definition of normal occlusion
• Distinguish normal from malocclusion
• Orderly way to classify malocclusion
Angle’s Classification

Does not include:

- Dental protrusion
- Arch length discrepancy (crowding/spacing)
- Transverse / vertical problems
- Skeletal vs. dental
Ackerman-Proffit Scheme

- Step 1 – Facial Proportion and Esthetics
- Step 2 – Dental Alignment and Arch Symmetry
- Step 3 – Skeletal and Dental Relationships in the Transverse Plane
- Step 4 – Skeletal and Dental Relationships in the Antero-posterior Plane
- Step 5 – Skeletal and Dental Relationships in the Vertical Plane
Ackerman-Proffit Scheme

• Addresses the limitations of the Angle’s Classification
• Step-by-step systematic approach to ensure nothing is overlooked
• Comprehensive
Problem List

• The result of the Ackerman-Proffit scheme is a rather exhaustive list of the presenting patients “dento-facial” problems

• Next step is to “categorize” the problems into more user-friendly list

• The problem list
DEVELOPMENT OF A PROBLEM LIST

• Relating to Disease or Pathologic process - periodontal, caries

• Relating to disturbances in development or Developmental
PRIORITIZING THE PROBLEM LIST

- Pathology first
- List the developmental problems in a sequence of decreasing severity
- Using the Ackerman-Proffit scheme, organize the list in order of severity
FACTORS TO CONSIDER IN PRIORITIZING THE PROBLEM LIST

- Patient’s concerns
- Severity of the different components of malocclusion
- Be as objective as you can be
Julianna Smith

- **Chief Complaint:**
  Julianna Smith is an 8 year 5 month old Caucasian female with a chief complaint of "overbite and crowded teeth"

- **Growth Status:**
  Height 55.5" (>95%)  
  Weight 91.5 lb (>95%)  
  Premenarchal

- **Past medical history:** Non-contributory

- **Past dental history:** Regular dental visits.

- **Social evaluation:** Concerned about her orthodontic problems
Facial Symmetry
Vertical Proportions
Lip posture
Dental midlines
Smile Animation

Incisal display
Overbite: Cross-bite: Anterior/posterior
Overjet: Periodontal
Midlines: Frenal attachment
Molar Occlusion:
Canine Occlusion:
Overjet:
Crowding / spacing
Arch form / width
Inclination of Posterior teeth
Palatal Width

AB

CD

Palatal Width

AB

CD
Crowding / spacing
Arch form / width
Inclination of Posterior teeth
Presence / absence of permanent teeth
Eruptive pattern / potential impaction
Pathology / abnormality
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<thead>
<tr>
<th></th>
<th>MEAN</th>
<th>RANGE</th>
<th>PRE-TX</th>
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<tbody>
<tr>
<td><strong>Soft Tissue</strong></td>
<td></td>
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<tr>
<td>Nasolabial Angle</td>
<td>102 deg</td>
<td>±8</td>
<td>107</td>
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<tr>
<td>L. Lip To E line</td>
<td>-2 mm</td>
<td>±2</td>
<td>2</td>
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<td><strong>Skeletal A-P</strong></td>
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<tr>
<td>SNA</td>
<td>82 deg</td>
<td>±2</td>
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<tr>
<td>SNB</td>
<td>80 deg</td>
<td>±2</td>
<td>80</td>
</tr>
<tr>
<td>ANB</td>
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<td>±2</td>
<td>6</td>
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<tr>
<td>“A” pt to NA perpendicular</td>
<td>MD (0mm) A (1mm)</td>
<td>Mixed dent Adult</td>
<td>4</td>
</tr>
<tr>
<td>“Pog” to NA perpendicular</td>
<td>MD(-8to-6mm) A(-to+4mm)</td>
<td>Mixed dent Adult</td>
<td>-2</td>
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<tr>
<td><strong>Skeletal Vertical</strong></td>
<td></td>
<td></td>
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<tr>
<td>FMA</td>
<td>22 deg</td>
<td>±5</td>
<td>18</td>
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<tr>
<td>Y -Axis</td>
<td>59 deg</td>
<td>±6</td>
<td>54.5</td>
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<td>Pal Plane to MP</td>
<td>26 deg</td>
<td>±6</td>
<td>17.5</td>
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<tr>
<td>NA-ANS/NA-Me</td>
<td>45%</td>
<td></td>
<td>49%</td>
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<td>ANS - Me</td>
<td>73mm(M) 65mm(F)</td>
<td>Male female</td>
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<tr>
<td>U1toL1</td>
<td>130 deg</td>
<td>±5</td>
<td>133</td>
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<tr>
<td>U1 to NA</td>
<td>22 deg 4 mm</td>
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<td>18.8 4</td>
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<td>L1 to NB</td>
<td>25 deg 4 mm</td>
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<td>22 4</td>
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<tr>
<td>L1 to MP</td>
<td>90 deg</td>
<td>±6</td>
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Ackerman-Proffitt Scheme

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Facial Proportion and Esthetics

- Decreased lower face height
- Convex Profile / skeletal Class II
- Maxillary protrusion
- Protrusive upper lip
Dental Alignment and Arch Symmetry

- Mild maxillary and mandibular dental crowding
Skeletal and Dental Relationships in the Transverse Plane

- Maxillary dental midline shift
Skeletal and Dental Relationships in the Antero-posterior Plane

- Skeletal and dental Class II
- Maxillary skeletal protrusion
- Anterior cross bite of #10
Skeletal and Dental Relationships in the Vertical Plane

- Increased anterior overbite
- Skeletal deep bite
Prioritized Problem List

- Pathology – None
- Developmental problems:
  - Crowding
  - Dental/skeletal Class II/convex profile
  - Deep Overbite
  - Dental midline shift