Staging System for Caries in the Primary Dentition

A Morbidity-Based Approach

Dee Robertson, MD, MPH
Suppose You Have a Medical Checkup...

- History of any concerns
- Full examination
- Runs tests
- Physician returns with grim face:
  - “Bad news, you have [fill in the blanks].”
- What do you want to know?
How will this affect my life?

- How long I will live without treatment
- How long I will live with treatment
- What will the symptoms be?
- How severe?
- How debilitating?
- How debilitating will the treatment be?
- What is the natural history of this type of disease?
- What are my options?
How will this affect my life? (part 2)

To grossly simplify, at the time of diagnosis:

1. Some diseases in some people are unlikely to affect the expected length of life or its quality. In short, you will die *with* them, but not *from* it.

2. Others are not so lucky.
Caries in children is analogous

- For some—in the U.S. probably for most—it is a mild, asymptomatic disease
- For others, it substantially diminishes the quality of life
- For a lot of others it’s between these two.
- QUEST in general and this Symposium in particular are concerned with group #2.
“The Prevalence of Caries in 2-5 year-olds...”

- “According to NHANES III the prevalence of caries in 2-5 year old children is...”
- The mean number of new carious surfaces (NNCS) in the treatment group was...
- “The mean number of arrested surfaces was...”

- What do these tell us?
- What do they not tell us?
It’s All About Morbidity

- Not all caries is created equal...
- “...an early [sic] carious lesion in a 1-year-old child represents a different level of severity than a single lesion found in a 5-year-old child.”*
- Why?
- Answer: Current and predicted future morbidity
- In little bitty words...how will this affect the child’s quality of life?

Based on Expert Opinion...

We defined an age-specific level of disease that was likely to result in ‘morbidity’ for the child.

We named that level an ‘adverse outcome’

We created a staging system of Levels 0-4 with a score of 4 representing an ‘adverse outcome’

Levels 1-4 are based on the probability of reaching an adverse outcome.
## Caries in the Primary Dentition Staging System

<table>
<thead>
<tr>
<th>dmft</th>
<th>&lt;18</th>
<th>18-23</th>
<th>24-29</th>
<th>30-35</th>
<th>36-47</th>
<th>48-59</th>
<th>60-71</th>
</tr>
</thead>
<tbody>
<tr>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>1</td>
<td>4</td>
<td>3</td>
<td>2</td>
<td>1</td>
<td>1</td>
<td>1</td>
<td>1</td>
</tr>
<tr>
<td>2</td>
<td>4</td>
<td>4</td>
<td>3</td>
<td>2</td>
<td>1</td>
<td>1</td>
<td>1</td>
</tr>
<tr>
<td>3</td>
<td>4</td>
<td>4</td>
<td>4</td>
<td>3</td>
<td>2</td>
<td>1</td>
<td>1</td>
</tr>
<tr>
<td>4</td>
<td>4</td>
<td>4</td>
<td>4</td>
<td>4</td>
<td>3</td>
<td>2</td>
<td>1</td>
</tr>
<tr>
<td>5</td>
<td>4</td>
<td>4</td>
<td>4</td>
<td>4</td>
<td>4</td>
<td>3</td>
<td>2</td>
</tr>
<tr>
<td>6</td>
<td>4</td>
<td>4</td>
<td>4</td>
<td>4</td>
<td>4</td>
<td>4</td>
<td>3</td>
</tr>
<tr>
<td>&gt;=7</td>
<td>4</td>
<td>4</td>
<td>4</td>
<td>4</td>
<td>4</td>
<td>4</td>
<td>4</td>
</tr>
</tbody>
</table>

--- (CIPD Level) ---

0 0 0 0 0 0 0

1 4 3 2 1 1 1

2 4 4 3 2 1 1

3 4 4 4 3 2 1

4 4 4 4 3 2 1

5 4 4 4 4 3 2

6 4 4 4 4 4 3

>=7 4 4 4 4 4 4
O.K., It’s Clever (or not), But...

- What possible application could this have to anything?
- How would practicing pediatric dentists use this?
- How will it help us get from here to there?
Stay tuned...