A NON-OPERATIVE APPROACH TO CHILDREN WITH CARIES

Gary Pannabecker, D.D.S
CAPT USPHS
Chief Dental Officer
Blackfeet IHS Dental Program
Browning, Montana
I have served at this facility for 19 years.

Approximately 11,600 patients served; ~ 1250 under 5 yo.

Dr. James Cannava, Pediatric Dentist, works with me on this initiative and has provided valuable expertise.
Our Approach to Managing Young Children with Caries Has Been...

- IHS ECC Initiative from 2010 – 2015 with an emphasis on primary prevention, including:
  1. quarterly fluoride varnish treatments for children in Headstart, Early Start
  2. sealants and interim therapeutic restorations (ITRs) on primary teeth
  3. preferred access for 0-5 year olds.

- We have a high level of performance on the Initiative process objectives, but...

- 65% of Blackfeet Reservation children ages 0-5 yrs have caries experience (35% untreated caries + 30% treated caries) prior to entering kindergarten.
The most common patterns of caries in children we see:

- Decay by age 1-3: children with very aggressive disease that starts when the teeth erupt and eventually involves most areas of the dentition
- Despite comprehensive dental treatment on the primary dentition, first permanent molars often need complex restorations and/or extractions upon eruption or shortly thereafter
When Primary Prevention Fails
Chapter #2

Approaches we have tried with very limited or no observable success:

- Not using a bottle after one year of age
- Use of fluoride varnish
- Use of xylitol gum
- Nutritional counseling
- Other ECC strategies of sealants, ITRs

- Approximately 21% percent of our children require restorations and extractions under general anesthesia
When Primary Prevention Fails
Chapter #3

Operative restorations

Primary Anteriors
- High level of success with full coverage restorations (e.g. composite crowns)
- Minimal level of success with glass ionomer protective restorations and multi-surface composites
- Teeth with large areas of decay are extracted

Primary Molars
- High level of success with stainless steel crowns
- Moderate levels of success with protective restorations and multi-surface glass ionomer restorations
Because of the Above...

- I visited Dr. Mendoza and the Warm Springs program
- My program requested permission from IHS DOH to become a beta site for the ‘Warm Springs Model’

- WE CONTINUE TO DO ALL OF THE PRIMARY PREVENTION ACTIVITIES WE HAVE ALWAYS DONE, but...

- When primary prevention fails
  - Discuss the option with parents,
  - Get written informed consent
  - Recommend applications of SN/FV at 0 – 2 – 4 – 8 – 12 weeks
  - Schedule follow-up exams at 3 – 6 – 9 – 12 months.
Our Implementation of the Model

- We started in January, 2015
- Offer as an option primarily for children age 12 – 72 months.
- At this point we have treated 93 children,
- 3 month follow-up exams 30 children,
- 6 month follow up on 22 children
- 1 year exams on 11 children.
- We are using the same database and tracking system used by Warm Springs and the other sites
- This will allow us to measure and report back to our tribe the level of safety and efficacy
Baseline Age Distribution: Blackfeet beta Site (n=93)

Baseline Exam Ages (months)  
Mean = 3.8
Blackfeet beta Site Children (n=93) by # of Protocol Treatments

1  2  3  4  5  6  7  8  9
0  1  2  3  4  5  6  7  8  9
10 20 30 40 50 60 70 80 90

# of SN/FV Treatments

# Children
## Baseline Caries Severity

<table>
<thead>
<tr>
<th>Children in Project</th>
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<tbody>
<tr>
<td>Baseline Exam</td>
<td>n=93</td>
</tr>
<tr>
<td>Age (y)</td>
<td>3.8</td>
</tr>
<tr>
<td>dmfat</td>
<td>4.5</td>
</tr>
<tr>
<td>dmfas</td>
<td>7.1</td>
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</table>
Rate of new caries formation

<table>
<thead>
<tr>
<th>Follow-up Exam</th>
<th>n</th>
<th>% NNCS =0</th>
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<tbody>
<tr>
<td>3m</td>
<td>28</td>
<td>93</td>
</tr>
<tr>
<td>6m</td>
<td>22</td>
<td>77%</td>
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<tr>
<td>12m</td>
<td>11</td>
<td>91%</td>
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NNCS=# new carious surfaces
My Overall Impressions of Silver Nitrate to Treat Caries in Children

1. It has been well accepted by patients and families.
   → Communication and visual aids are key

2. Highly efficacious in arresting caries in the primary dentition
   → Limitations: big decay, interproximal lesions, patient compliance-
     patient presenting for 5 visits.
   → Delaying restorative treatment until cooperation improves or primary
     tooth eruption is complete can be a goal.

3. No complications other than silver nitrate stains on hands and clinic
   countertops
Conclusion

Using the Warm Springs Model Is a Win-Win Situation

- It’s a valuable tool to have in our armamentarium
- We do fewer protective restorations, extractions and stainless steel crowns (but still do plenty)
- Staff and patient/family acceptance has been excellent
THANK YOU...