Washington Smile Survey, 2022-2023

Evaluating the Oral Health of 2nd and 3rd Grade Children

Introductions

Introductions

Name

Where you live

Where you went to professional school

Your non-work passion

Your Trainer – Dr. Kathy Phipps

BSDH – Dental Hygiene

BS – General Science
Public Health Studies

Go Blue!

MPH – Dental Public Health

DrPH – Oral Epidemiology

Employment

- 1988-2000: Oregon Health & Sciences University
  - School of Dentistry & School of Medicine
- 2000-present: Consultant
  - Association of State and Territorial Dental Directors
  - Los Angeles County
  - State of West Virginia
  - Indian Health Service
  - Arcora Foundation

Morro Bay, CA

My Passions - *Travel*

My Passions

Wildlife Photography

Training Objectives

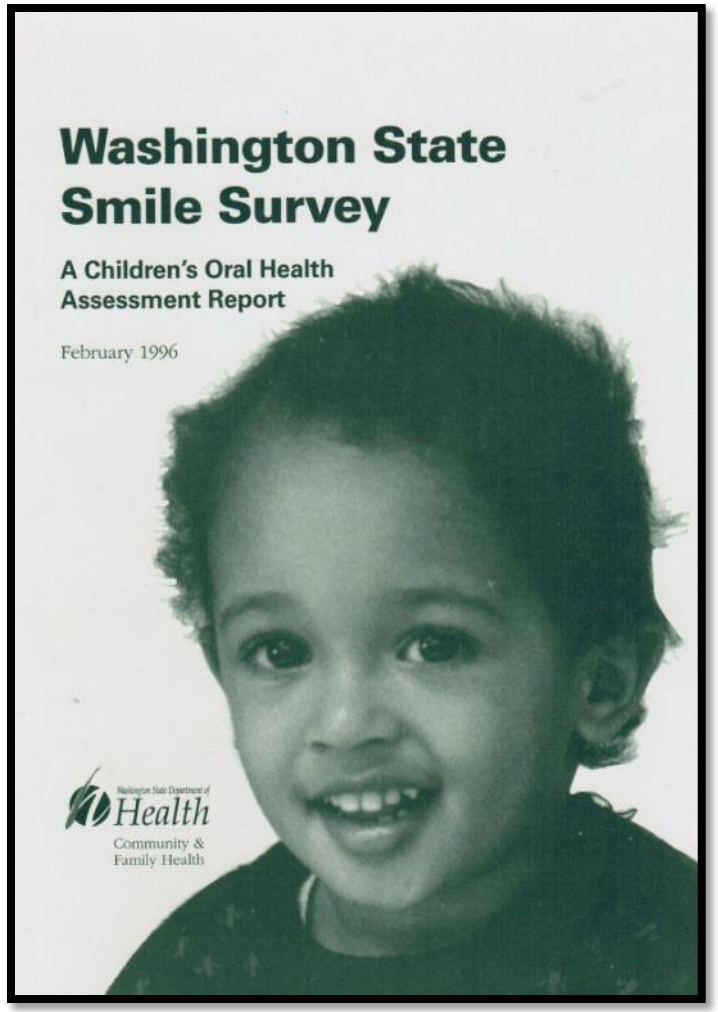
- Participants will be able to describe
  - Washington Smile Survey
  - Oral health surveillance
  - The importance of “diagnostic” consistency
  - The diagnostic criteria for the oral health survey

Purpose of Smile Survey

- Primary: To obtain ***statewide*** estimates of the oral health of WA's children
  - To evaluate and document oral health disparities by…
    - Socioeconomic status
    - Race/ethnicity
- Secondary: To obtain ***county*** level estimates for some, but not all, of Washington's counties
  - 21 counties will participate

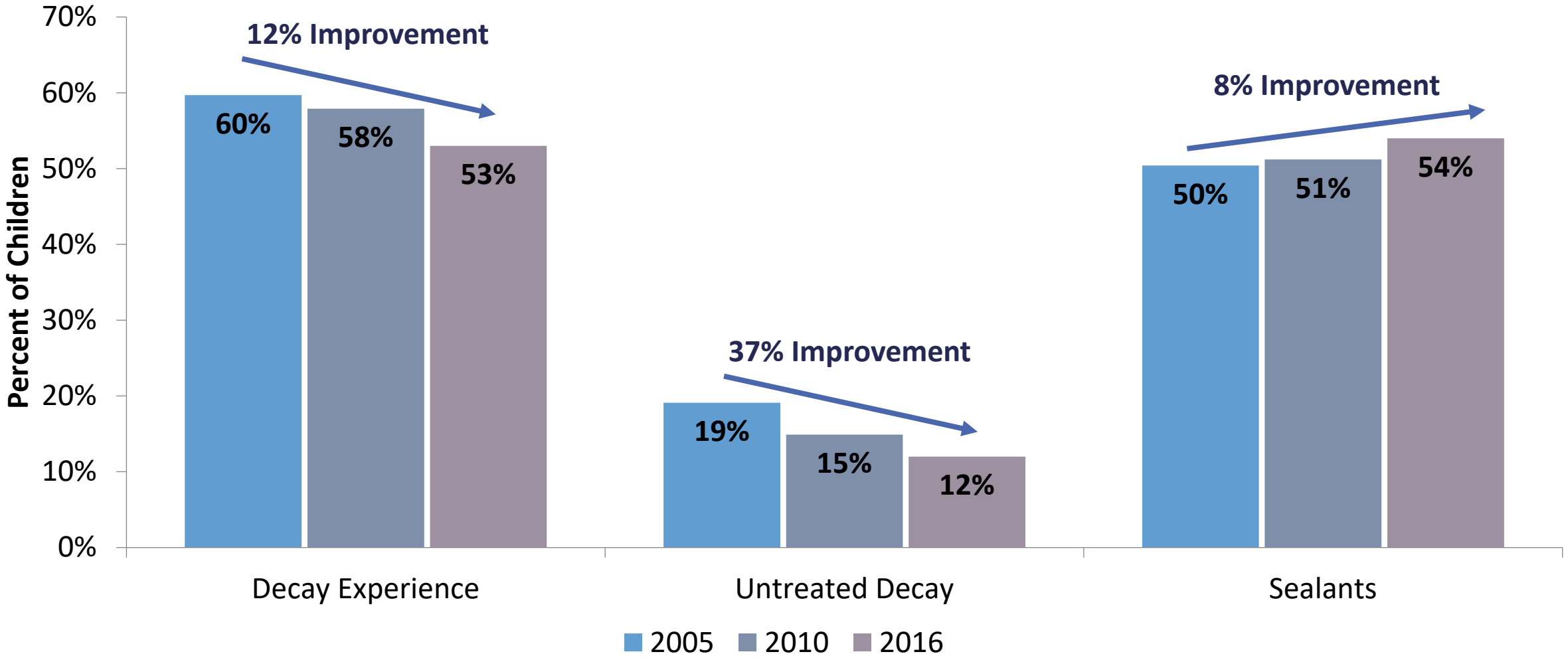
A Brief History of the Smile Survey

- 1993-1994
- 1999-2000
- 2004-2005
- 2009-2010
- 2015-2016
- 2022-2023



Happy 29th Birthday!

Third Graders – Trends Over Time



Who Will We Screen?

- Public elementary school children
  - 2nd Grade
  - 3rd Grade

State Smile Survey Sample

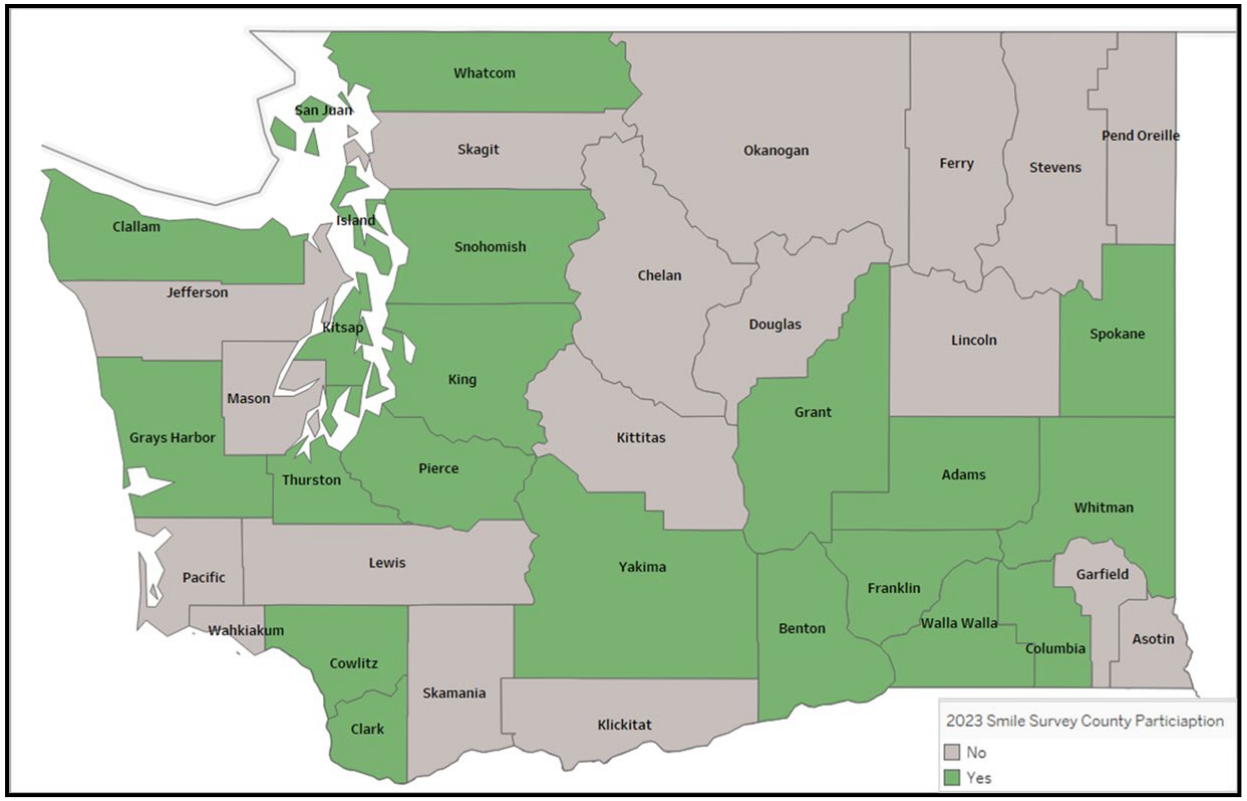
Probability sample of public schools

- Stratified by
  - Geographic region
  - Free/reduced price meal status
- Representative of state

State Sample 87 schools

- 79 schools – Both grades
- 4 schools – 2nd grade only
- 4 schools – 3rd grade only

County-Level Smile Survey Sample



- 21 counties (green on map)
- 285 public schools
- Western WA
  - Clallam, Grays Harbor, Island, King, Kitsap, Pierce, San Juan, Snohomish, Thurston & Whatcom
- Southwest WA
  - Clark & Cowlitz
- Central WA
  - Benton, Grant, & Yakima
- Eastern WA
  - Adams, Columbia, Franklin, Spokane, Walla Walla, & Whitman

Primary Oral Health Indicators

Collected during screening

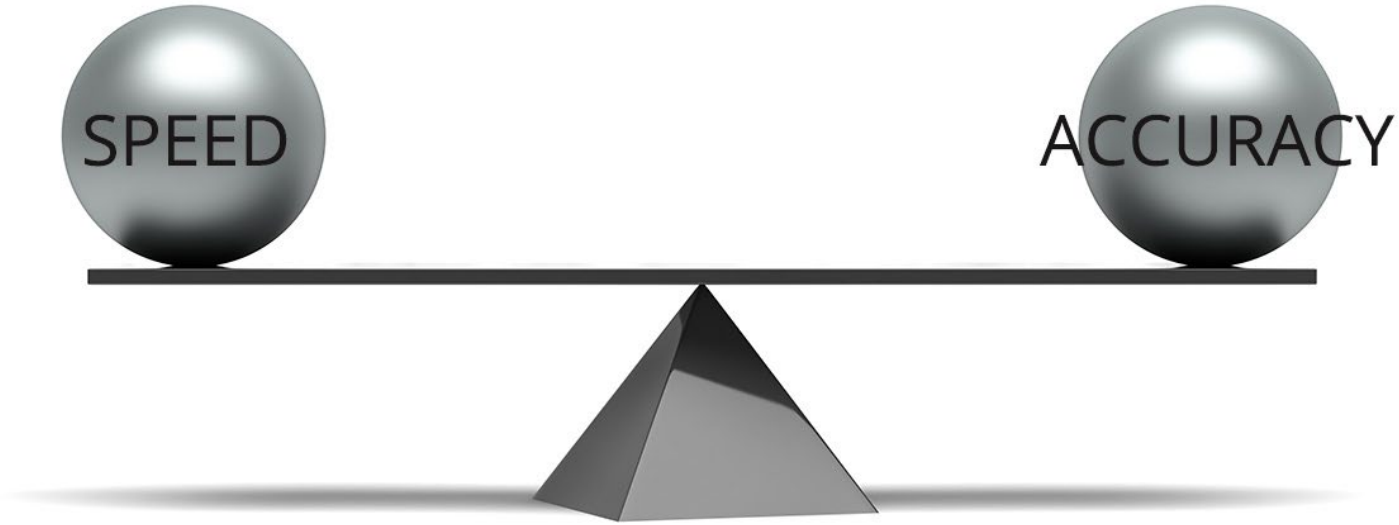
- Treated decay (none, primary only, primary & permanent, permanent only)
- Untreated decay (none, primary only, primary & permanent, permanent only)
- Rampant decay – 7 or more affected teeth (no/yes)
- Dental sealants on permanent molars – (no/yes)
- Need for restorative dental care – (none, early, urgent)

Calculated after the screening

- Decay experience - calculated from treated & untreated decay

Demographic Indicators

- State Student ID Number
  - Data will be merged with OSPI dataset to obtain demographic indicators
  - ***Accuracy is essential***



Screener Training

Why Are We Having This Training?

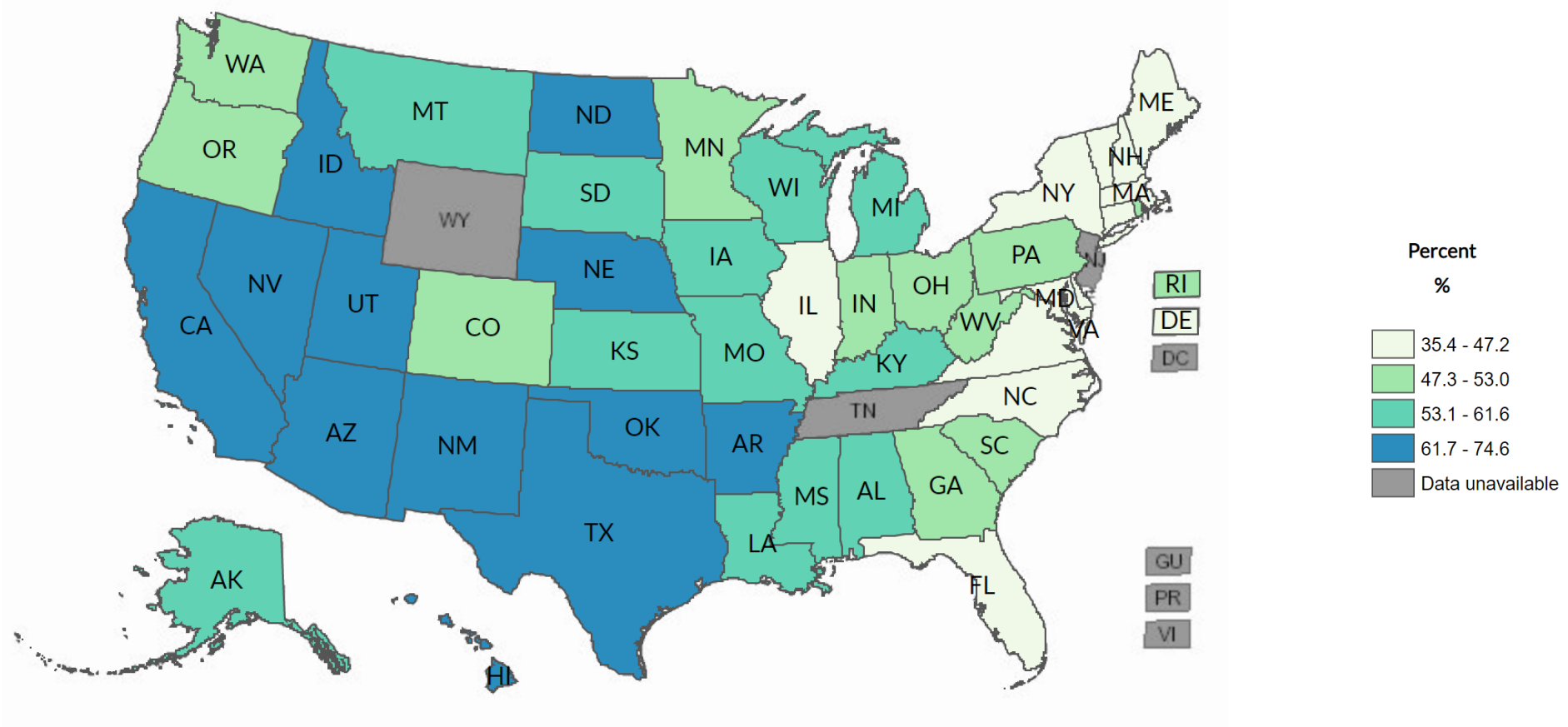
Caries diagnosis varies among clinicians

- 10 clinicians plus 1 patient = 10 different treatment plans

Purpose of training is to assure consistency

Consistency with Other States

Percentage of 3rd Grade Children with Decay Experience



www.cdc.gov/oralhealthdata, map created April 2021

Consistency Versus Perfection

CONSISTENCY

Consistency is the key to success.

PERFECTION

A beautiful thing is never perfect.

Consistency NOT Perfection

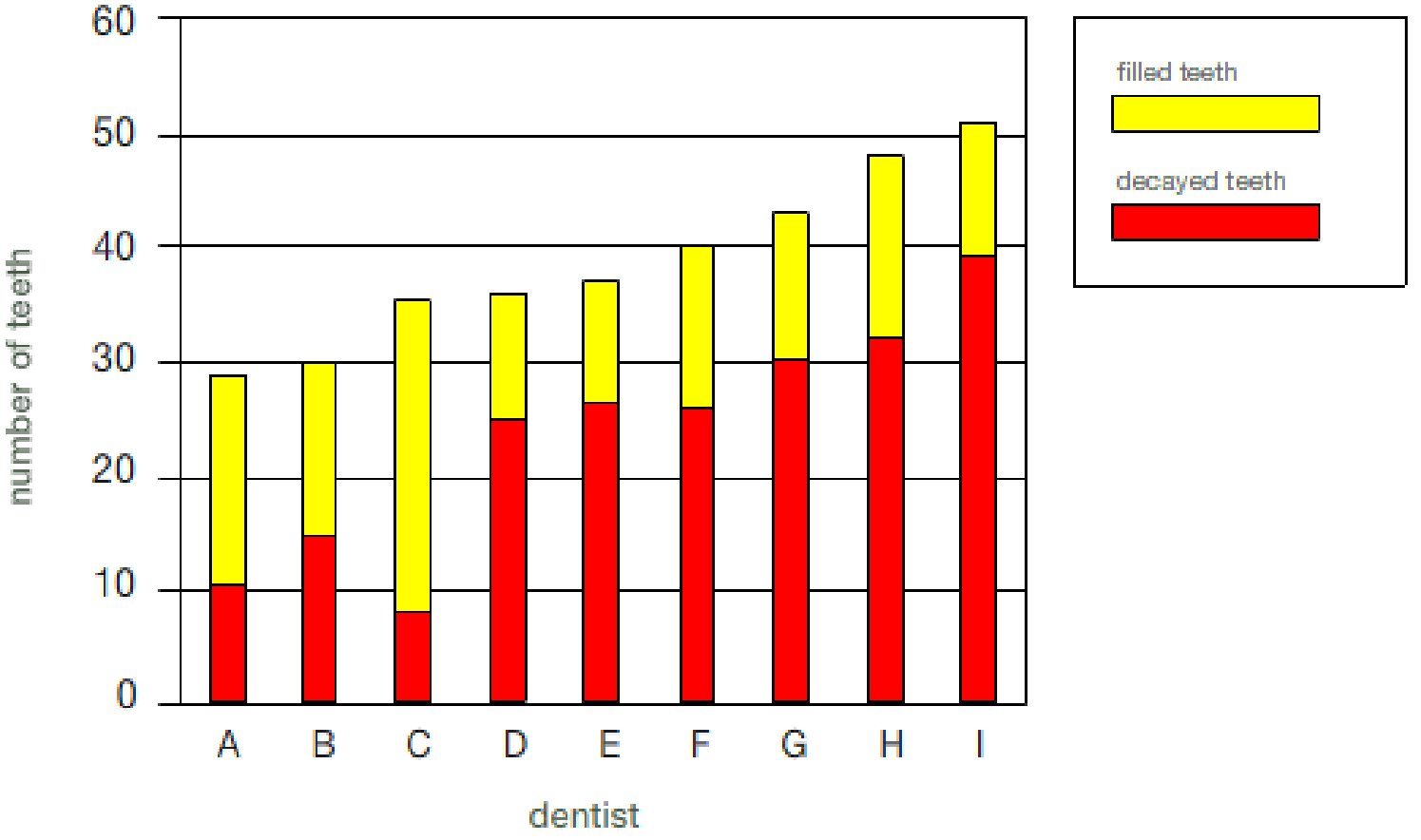
CONSISTENCY

- Are you diabetic?
- How much do you weigh?
- Have you broken a bone?
- Dental screening by trained screeners with defined criteria

PERFECTION

- Blood test
- Weight on calibrated scale
- Medical record review
- Complete examination with x-rays by trained & calibrated examiners

Consistency Versus Perfection



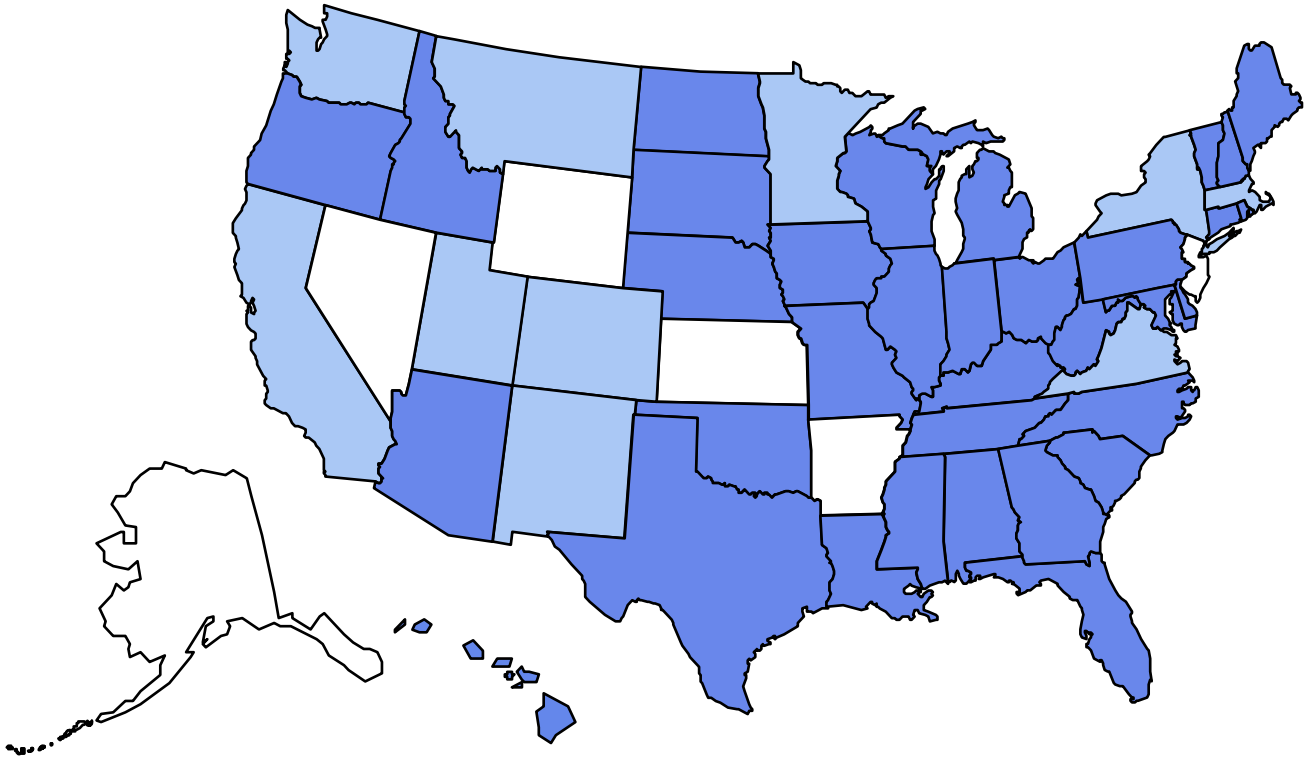
Variation between dentists in recording the number of decayed and filled teeth in a group of 12 year old children

Importance of Consistency

- With multiple screeners, it is essential that everyone screen children in the same manner
- Set criteria are used
  - Everyone must follow the criteria
  - Will underestimate disease
  - Used in all state and national surveys

Example Adult Obesity

Obesity Among US Adults, 1990



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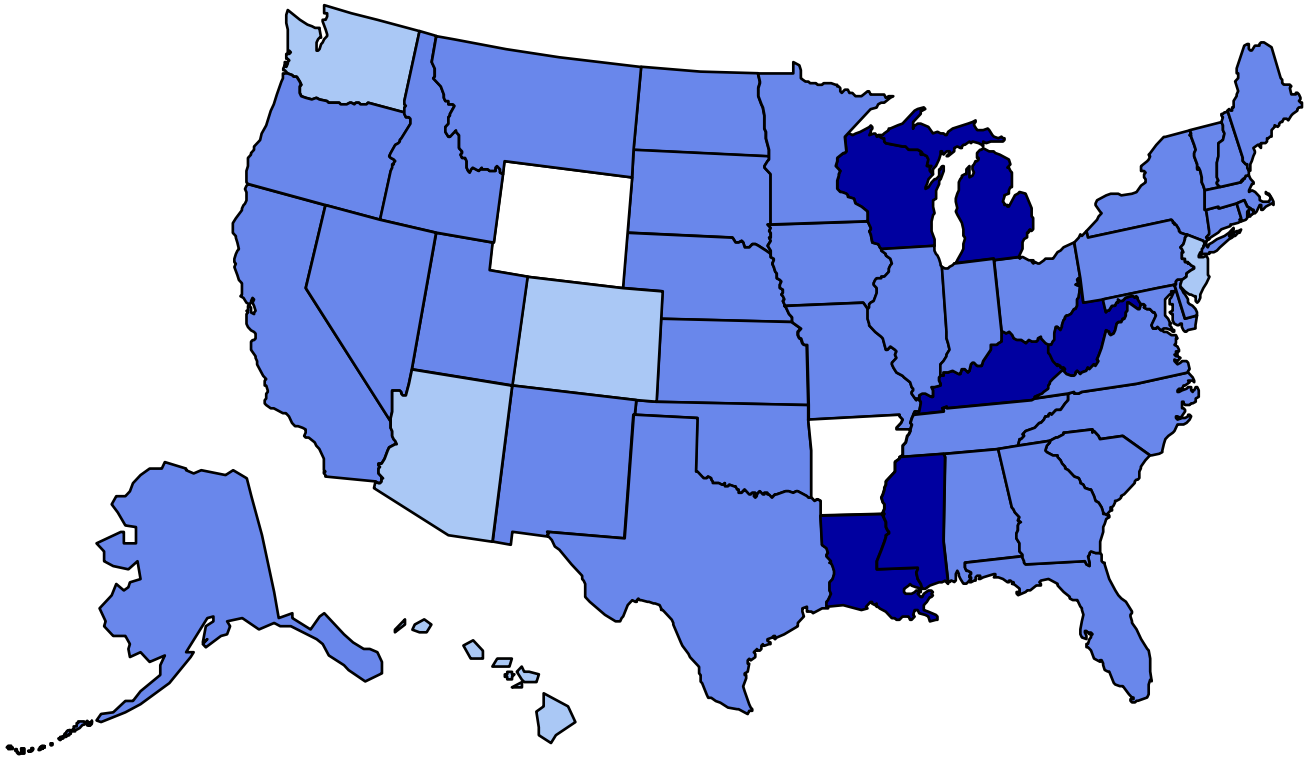
Obesity Among US Adults, 1992



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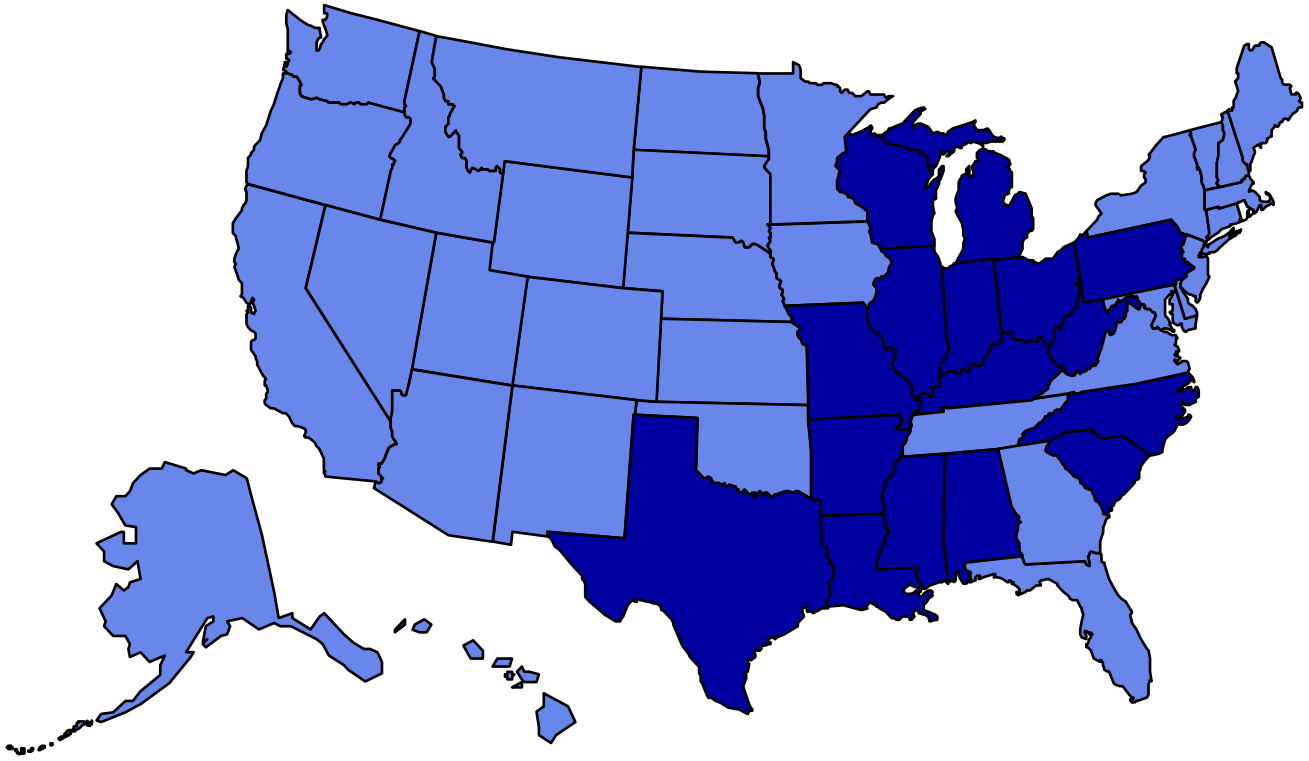
Obesity Among US Adults, 1994



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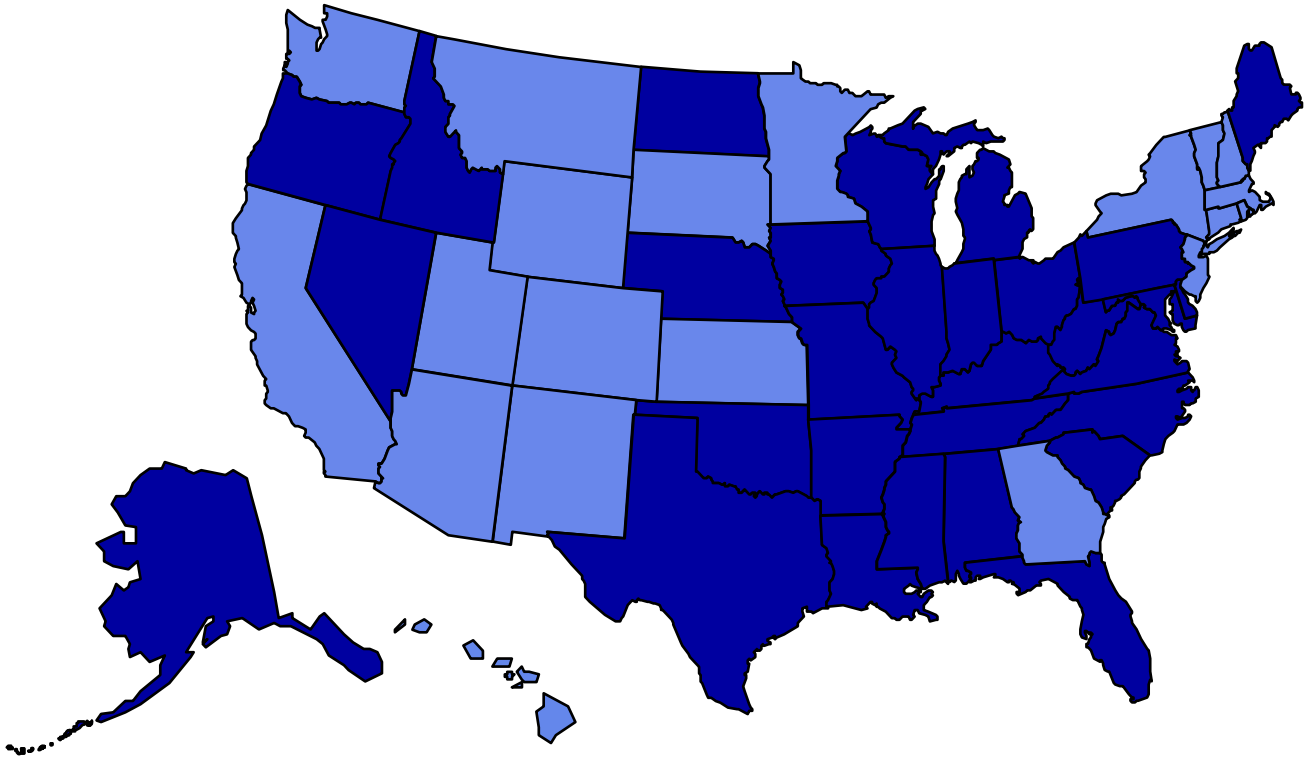
Obesity Among US Adults, 1996



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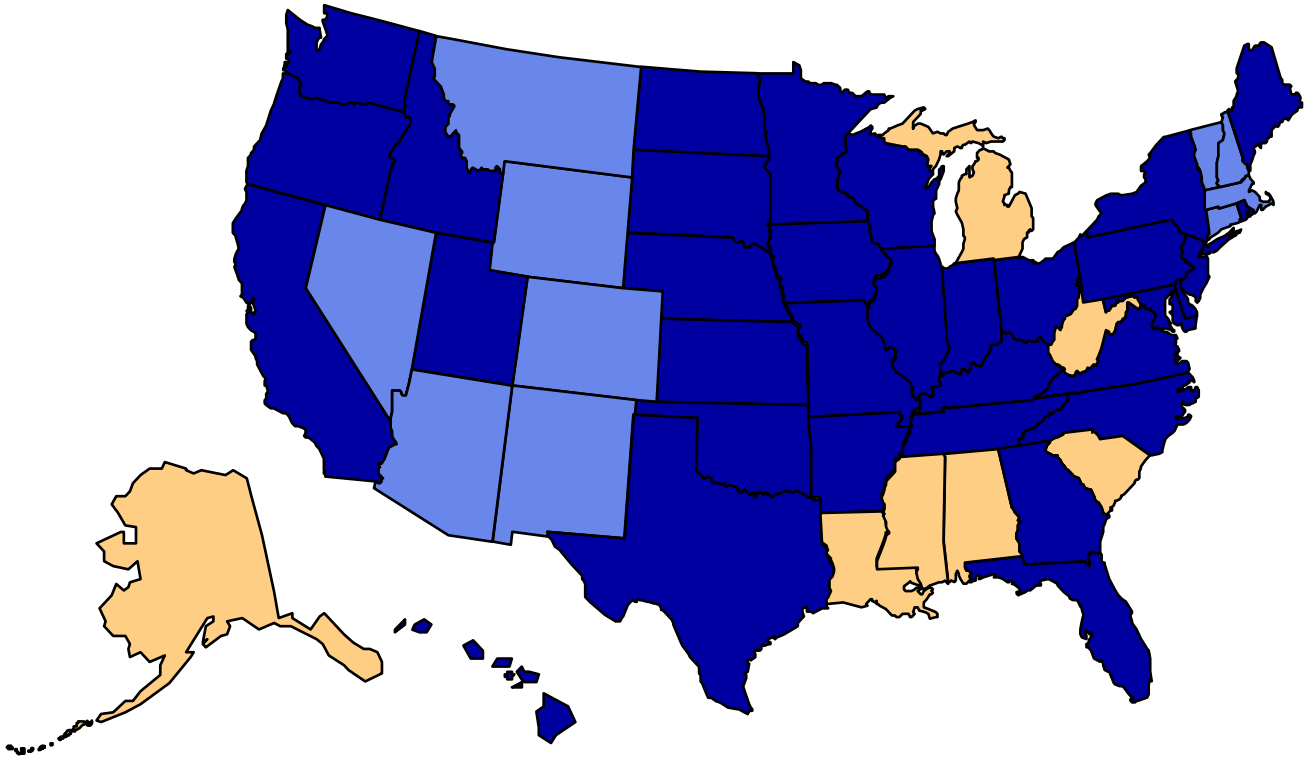
Obesity Among US Adults, 1998



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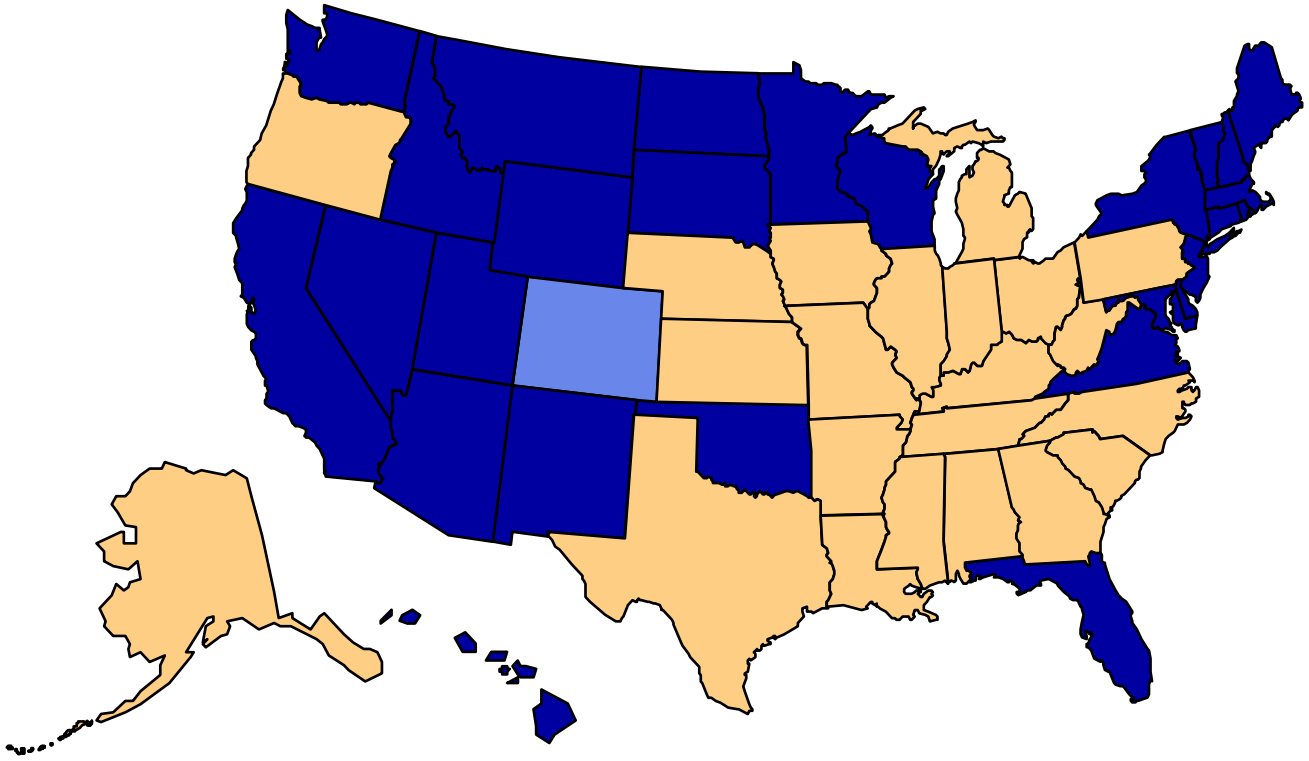
Obesity Among US Adults, 2000



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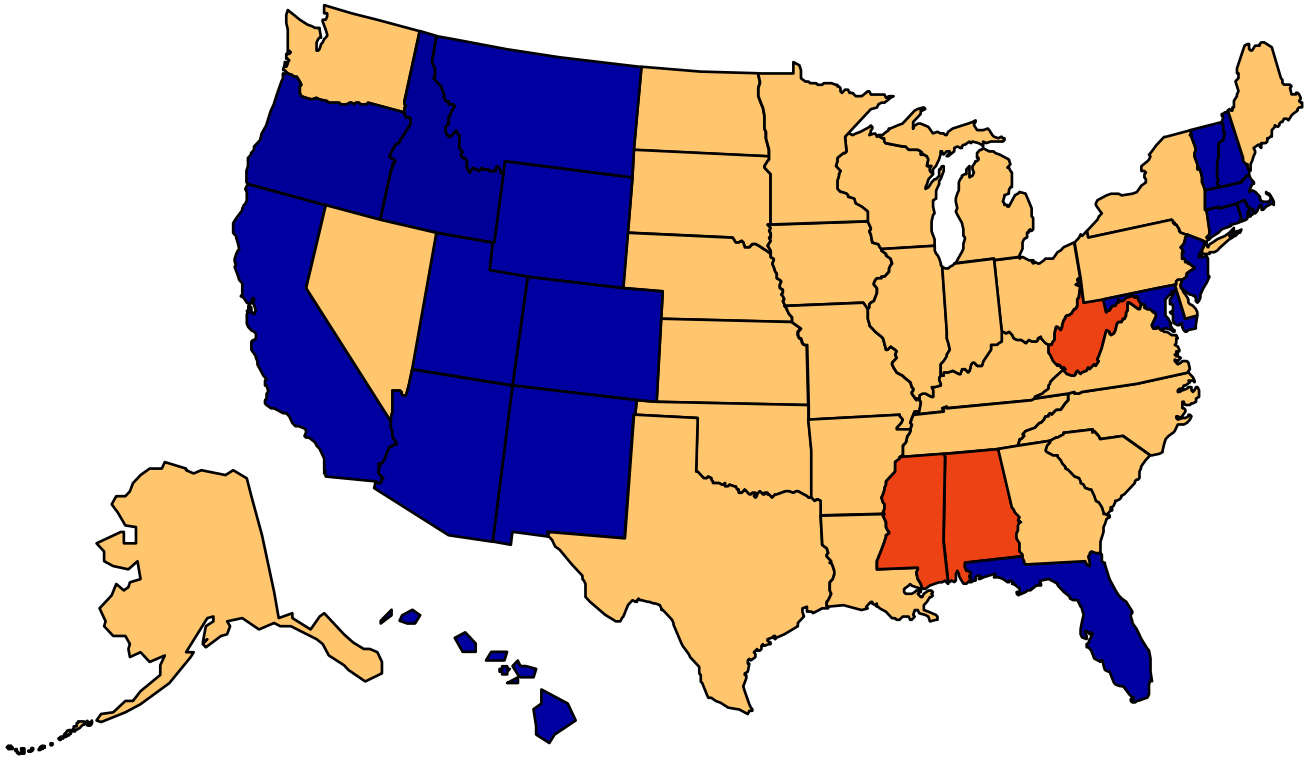
Obesity Among US Adults, 2002



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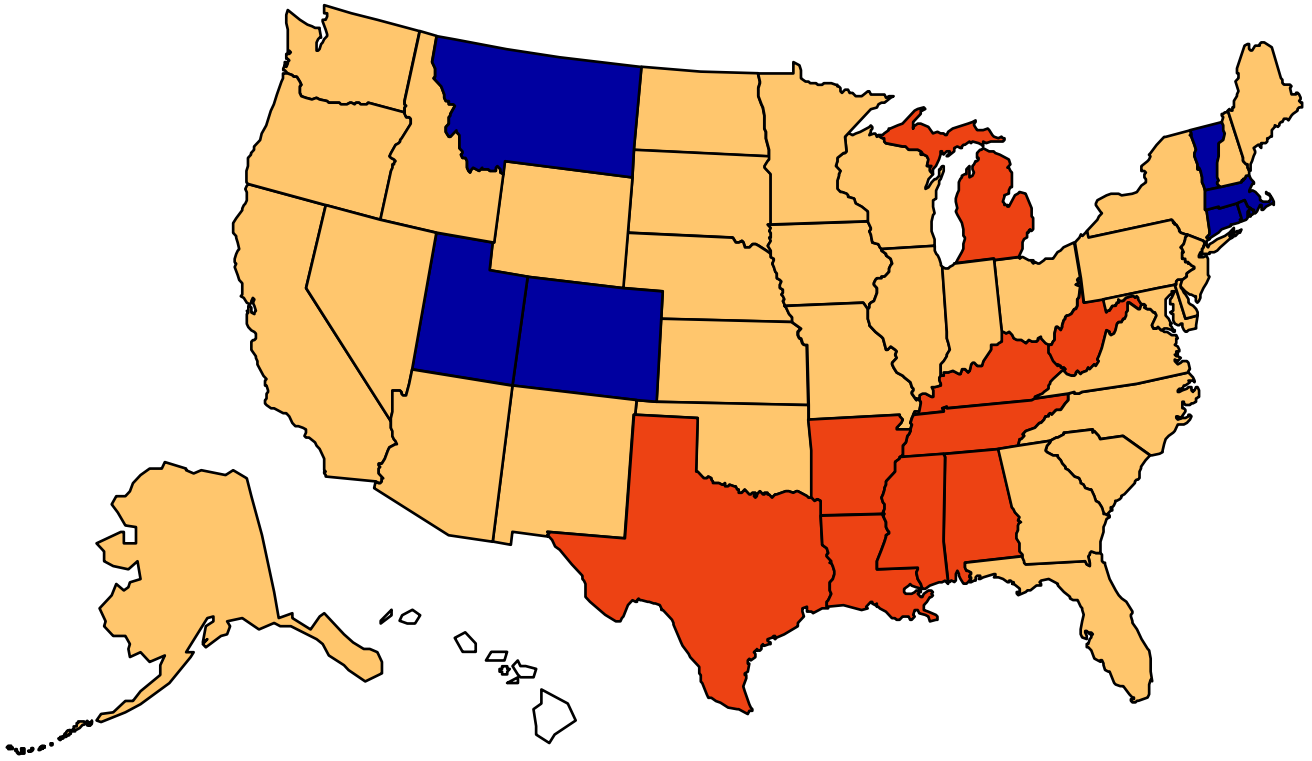
Obesity Among US Adults, 2004



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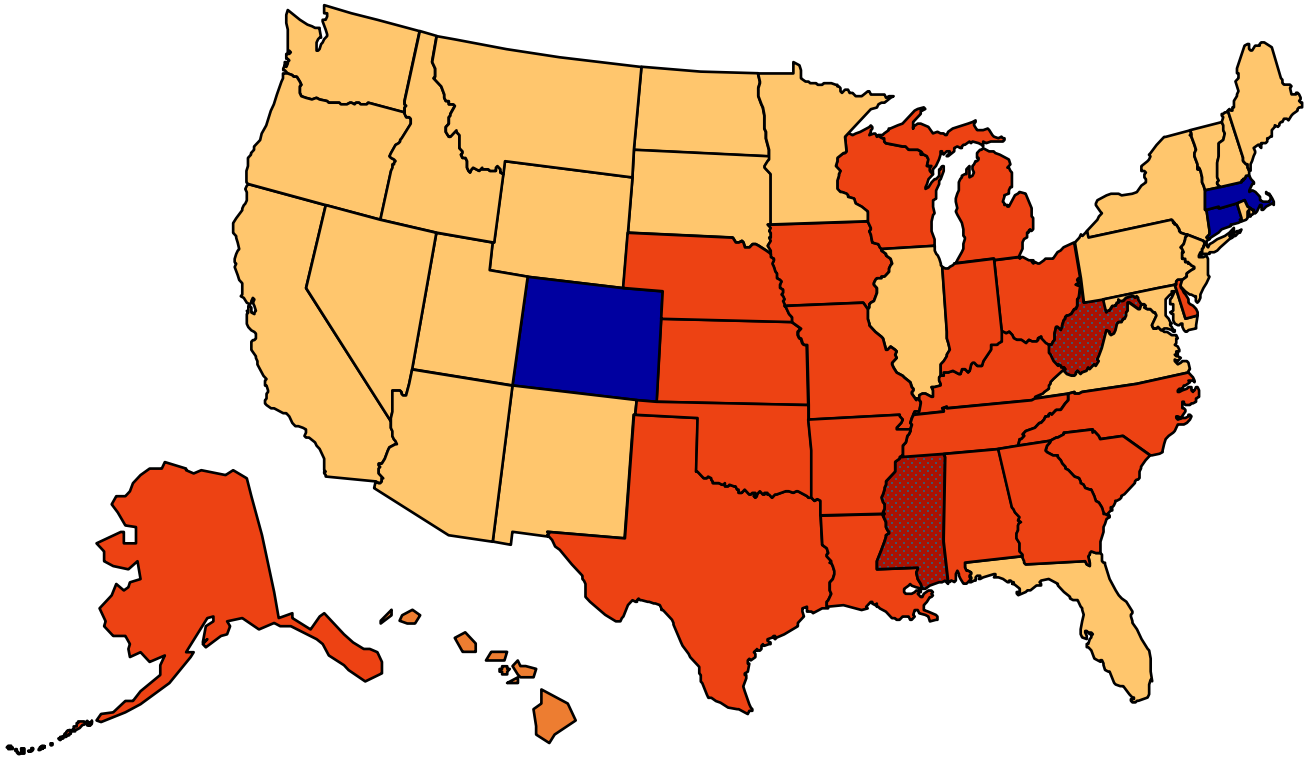
Obesity Among US Adults, 2006



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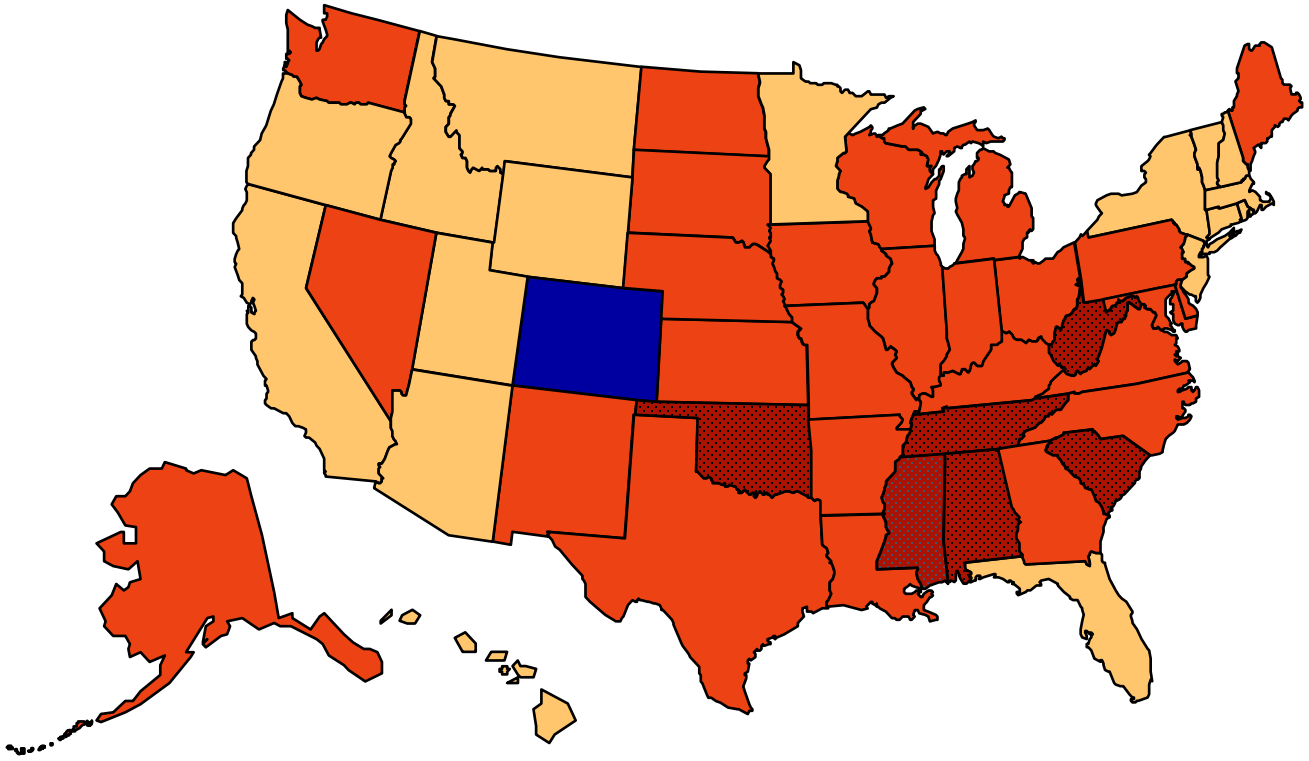
Obesity Among US Adults, 2008



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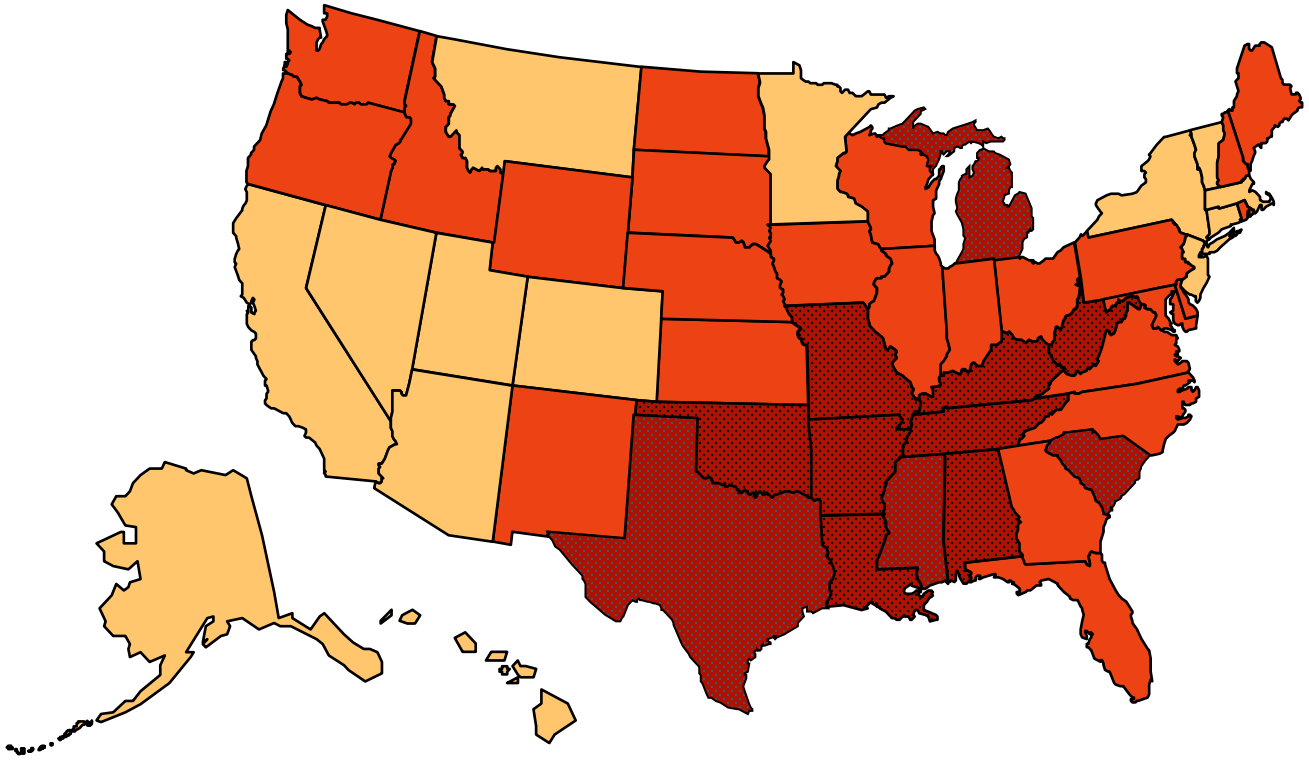
Obesity Among US Adults, 2010



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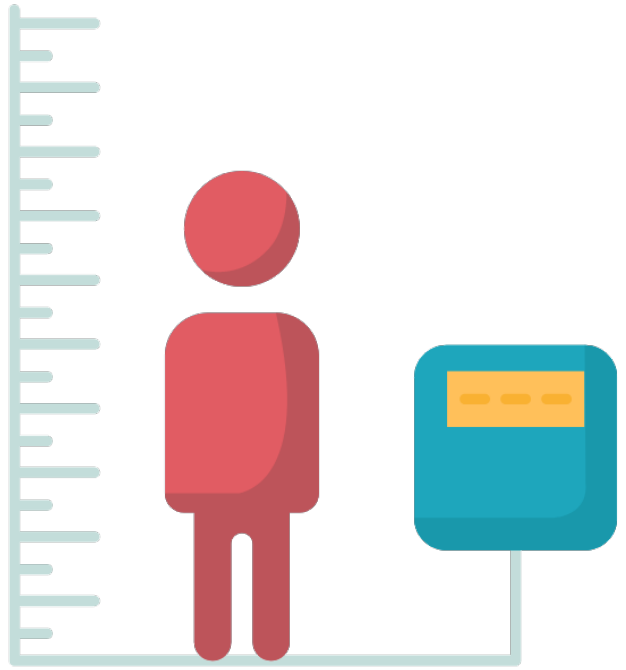


How is Obesity Data Collected?

Screening Logistics

What is a Dental Screening?

NOT a clinical examination with diagnosis and treatment planning

Quick screening with recording of *obvious* findings

About 1 minute per child

Good Lighting is Essential

NEVER RELY ON NATURAL LIGHT.

Lighting Options

- Strong penlight (LED lights are good)
- Small flashlight
- Portable dental light (if available)
- Always carry extra batteries
- ***<u>DO NOT</u> use cell phone flashlight***

Teeth Should be Clean & Dry

May need to remove gross debris with

- Toothbrush
- Long-handled toothpick or cotton swab
- Only when absolutely necessary

Saliva

- Ask child to swallow

Retraction & Visualization

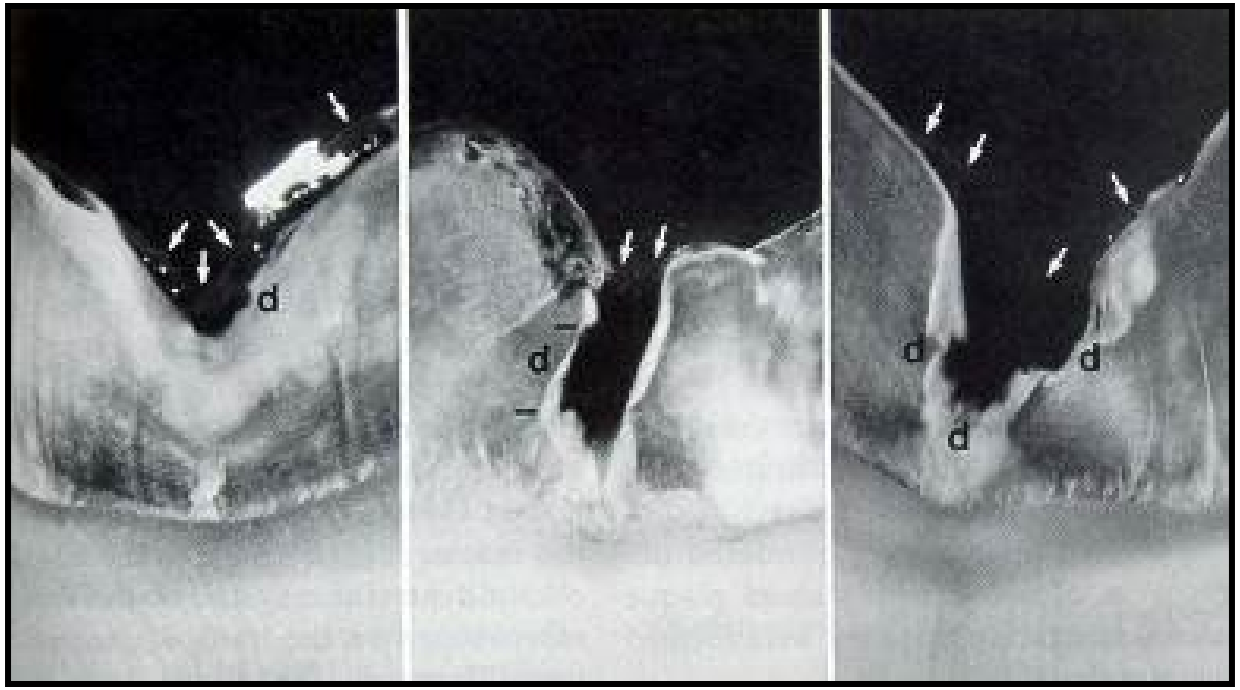
Tongue Blades

Disposable Mirrors

Instrumentation

- Dental explorers will NOT be used

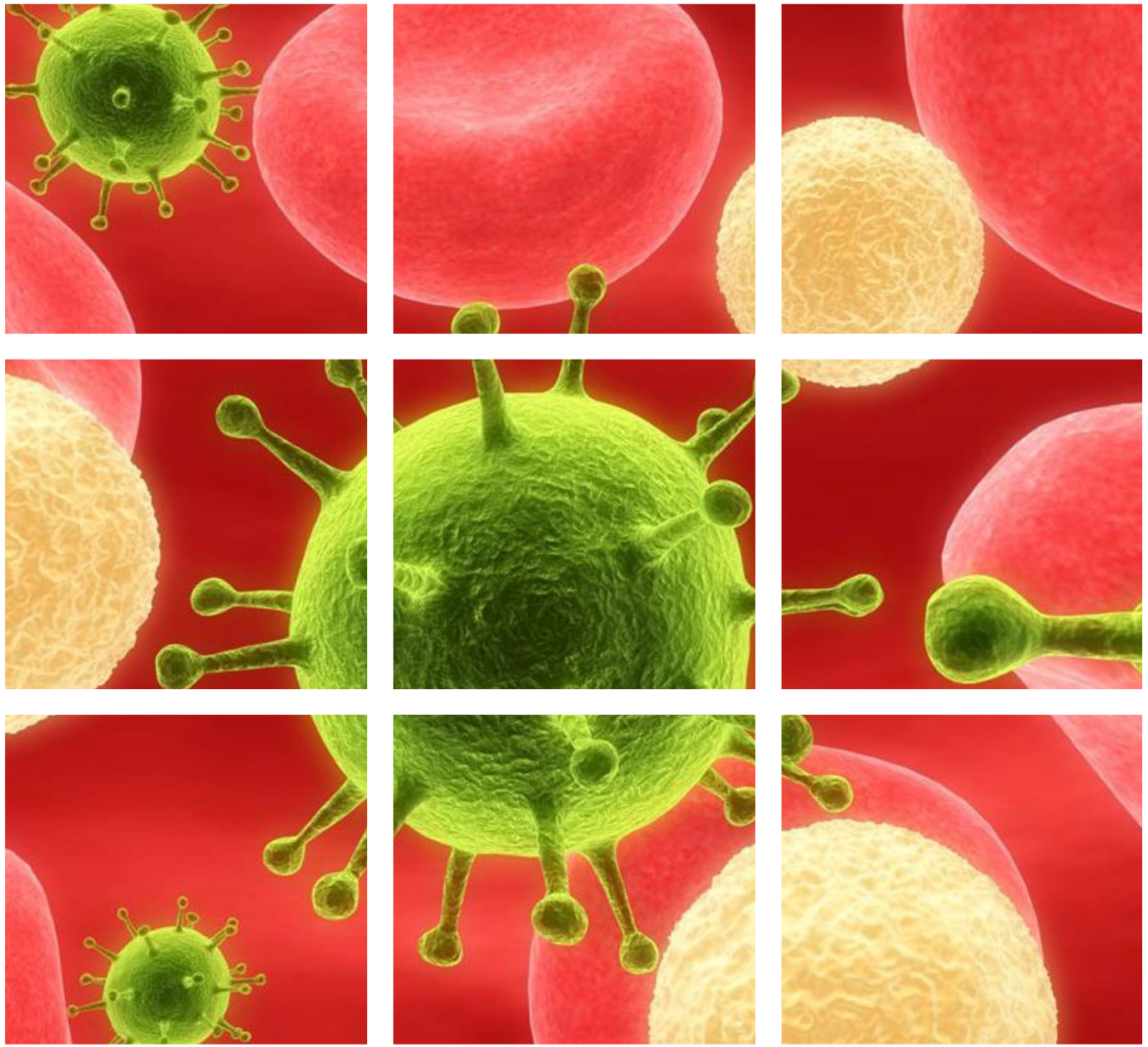
Damaged Enamel From Explorer



What About My Loupes?

DO NOT USE

Infection Control Guidelines



Considerations

Resources

Centers for Disease Control & Prevention

www.cdc.gov/oralhealth/infectioncontrol/index.html

Occupational Safety & Health Administration

www.osha.gov/coronavirus/control-prevention/dentistry

The BSS is a non-invasive screening – no physical contact with child

The BSS ***does not*** produce aerosols

Follow infection control guidelines for non-aerosol generating procedures

PPE in the Era of COVID

Gloves

- Change between each child

Surgical mask

- High community transmission, N95 is advisable

Eye protection (optional)

- Goggles or face shield

Work clothing

- Scrubs, lab coat, smock, or gown

Source: OSHA, www.osha.gov/coronavirus/control-prevention/dentistry, April 2021

Common Infection Control Mistakes

Touching the Child

Flashlight in Mouth

What About Parental Consent?

Type of Consent May Vary by School

Passive “Opt-Out” Consent

- All children are screened unless parent says “No”
- If a child doesn’t return a form, they are screened

Positive Consent

- Only children that return a form with a “Yes” are screened

Parental Consent

- When obtaining school approval, offer opt-out consent
- Benefits of opt-out…
  - Less work for school staff
  - The highest-risk children are least likely to return a consent form so they will get a dental screening if opt-out is used
  - The screening is non-invasive (like a vision screening)
- Only offer positive consent if school refuses opt-out

Oral Health Indicators

- *Treated Decay*
- *Untreated Decay*
- *Rampant Decay*
- *Dental Sealants*
- *Need for Restorative Dental Care*

Treated Decay

Treated Decay – Past Treatment

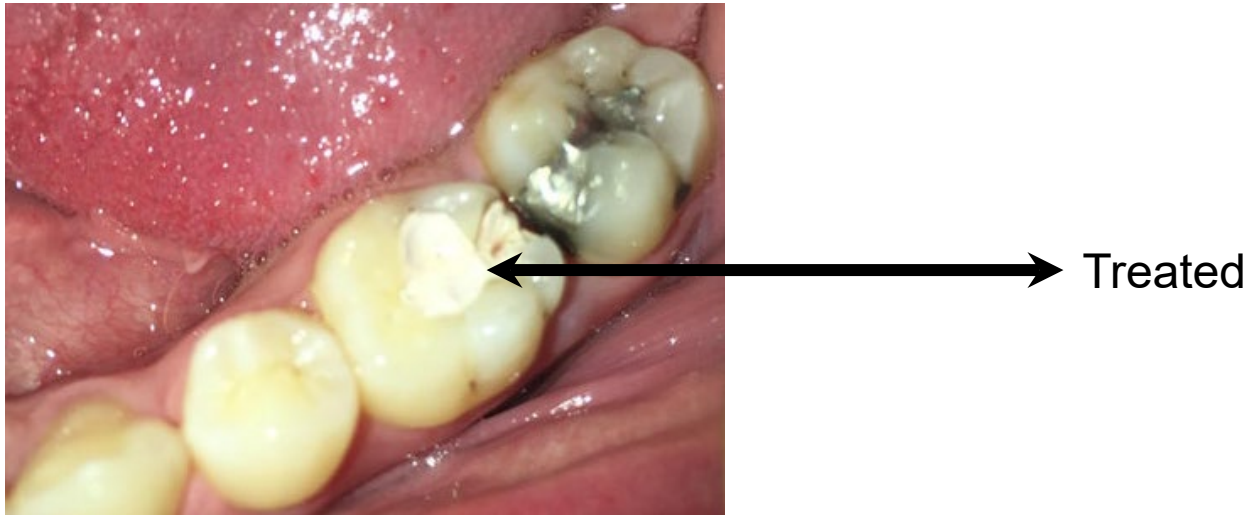
- Has the child had dental treatment ***because of decay?***
- Includes
  - Amalgam and composite restorations
  - Glass ionomer restorations
  - Preventive resin restorations
  - Temporary restorations
  - Crowns placed because of decay
  - Extractions because of decay
    - Usually, primary molars

Treated Decay

- Glass ionomer & preventive resin restorations are treated decay

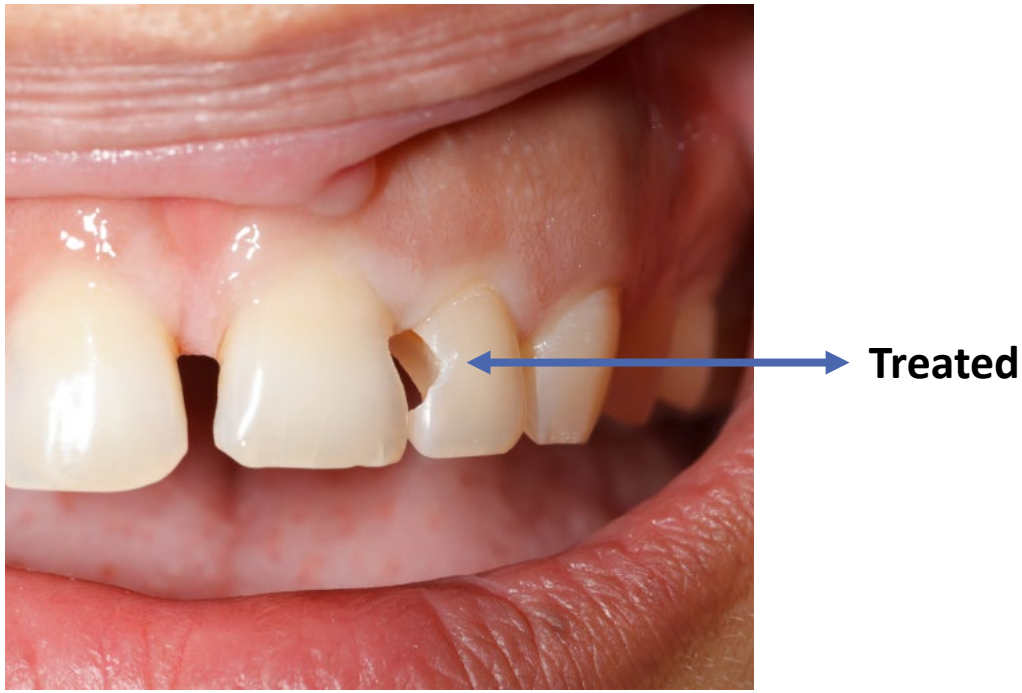
Treated Decay

- Teeth with temporary fillings are classified as treated



Treated Decay

- If a filling has fallen out and decay is not present, code as treated



Treated Decay – Extracted Teeth

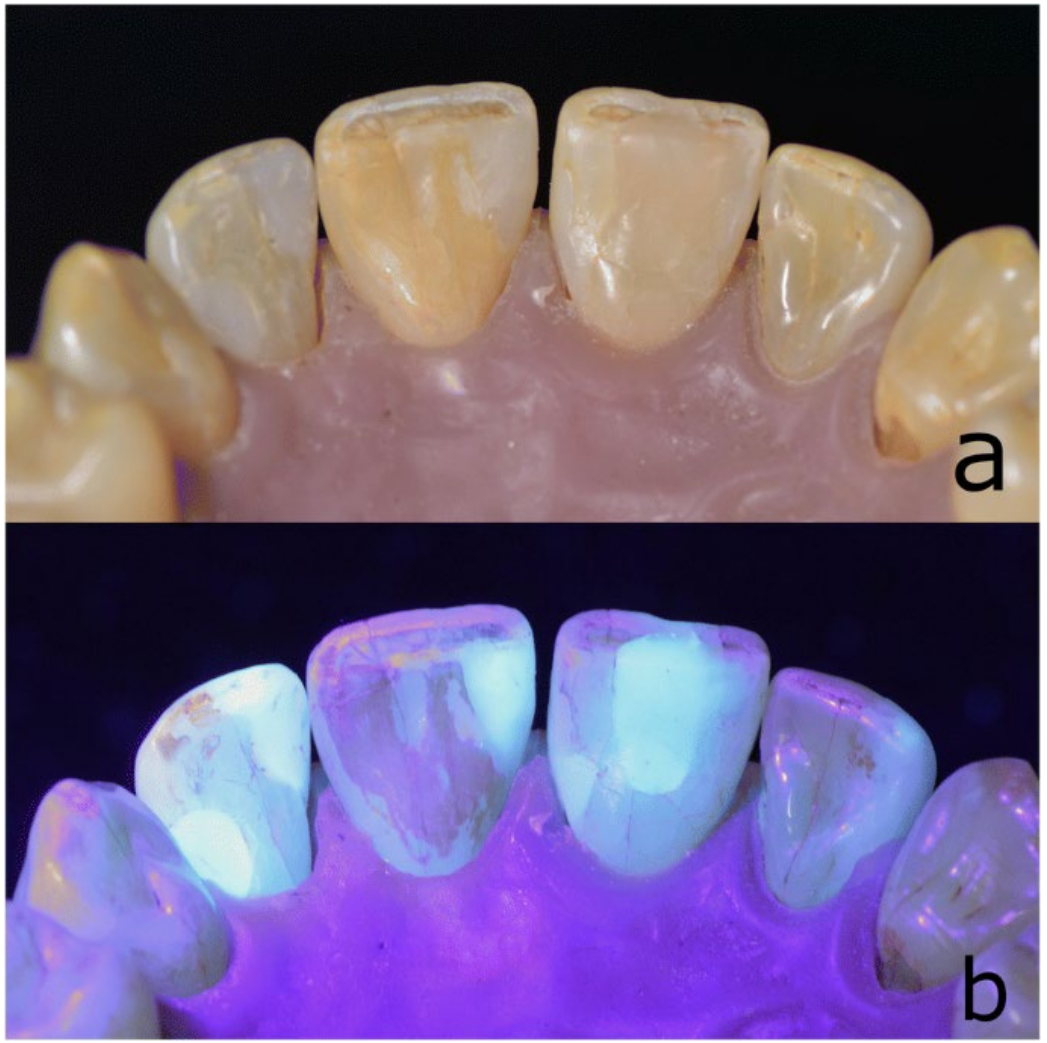
- Has a tooth been extracted because of decay?
  - **DO NOT** include teeth extracted for orthodontic reasons
  - **DO NOT** include teeth that have exfoliated naturally

BEWARE: Some Restorations Are Hard to Identify

Tooth Colored Crowns

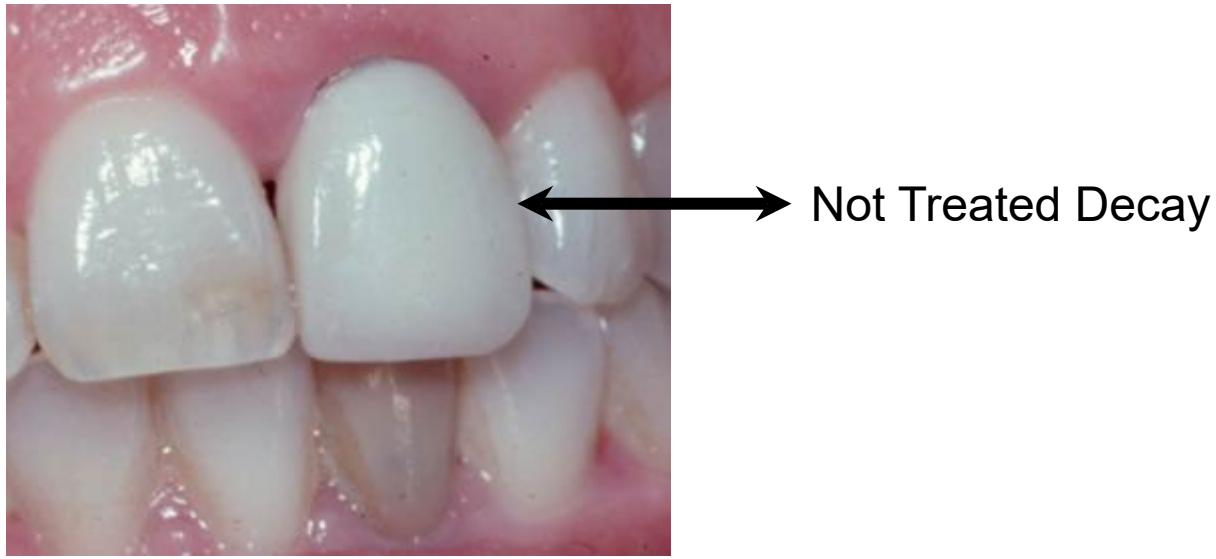
Potential Tool for Identifying Composite/GI Restorations

Black Light Example



NOT Treated Decay

- Crowns placed ***because of trauma*** are not treated decay



Traditional Sealants are NOT Treated Decay

Treated = No

Codes for Treated Decay

- No treated decay
- Primary teeth only
- Primary & permanent teeth
- Permanent teeth only

Untreated Decay

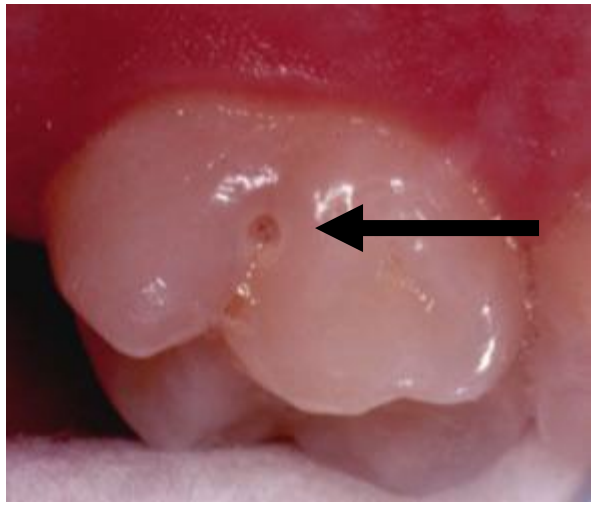
Untreated Decay

A measure of untreated disease

Does this child have any CAVITIES that have not been treated?

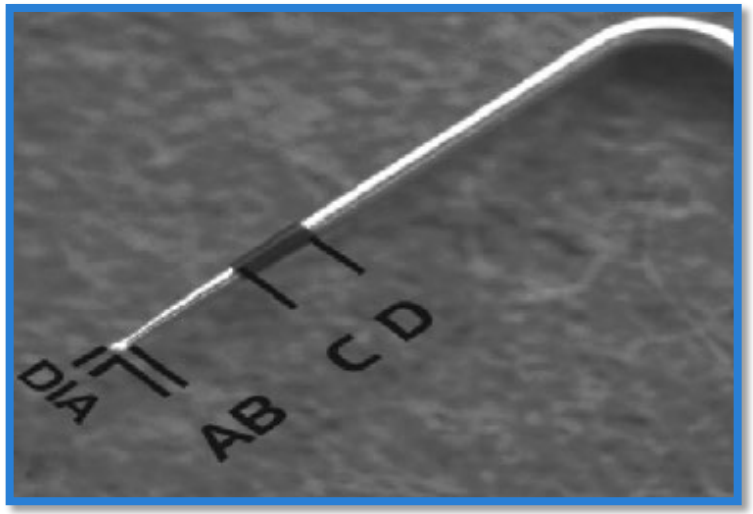
Untreated Decay

- A tooth has untreated decay when you can easily see breakdown of the enamel surface
- ***Only cavitated lesions are considered untreated decay***



Untreated Decay

- Reference – detectable using PSR/CPI perio probe
- If you gently moved a ***hypothetical*** PSR/CPI perio probe over a lesion, the probe would “catch” a cavitated lesion



Untreated Decay

Pits & Fissures

Smooth Surface

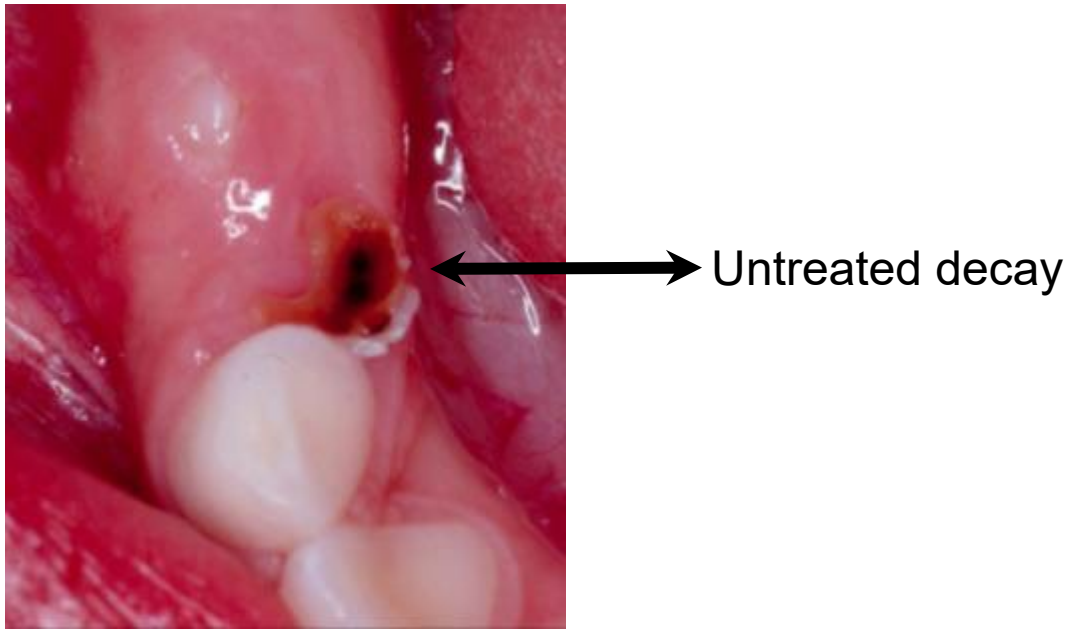
Untreated Decay

- Teeth treated with SDF are coded as untreated decay if there is a break in the enamel surface

Untreated Decay

Untreated Decay

- Retained roots & root fragments = untreated decay



Road Analogy

Definitive Hole in Road Surface
Untreated Decay

Road Surface Intact
NOT Untreated Decay

Proximal Surface Decay

NOT Untreated Decay

- Broken fillings without recurrent decay are coded as treated not untreated decay

NOT Untreated Decay

- Teeth with stained pits & fissures and NO enamel break are considered sound

This tooth has stain but NO enamel break, so it is SOUND.

NOT Untreated Decay

- “White spot” lesions are not untreated decay

These teeth have “white spots” but no break in the enamel surface. Do not code as untreated decay.

Rule of Thumb

When in doubt, rule it out.

If you are not sure if a cavity is present, assume it is not.

Codes for Untreated Decay

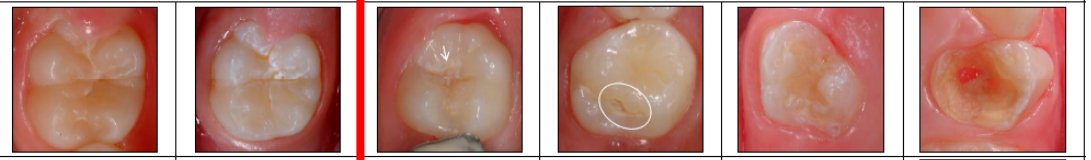
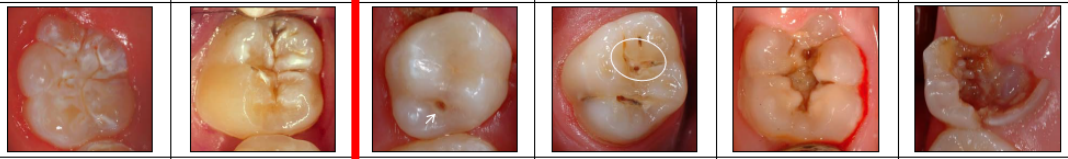
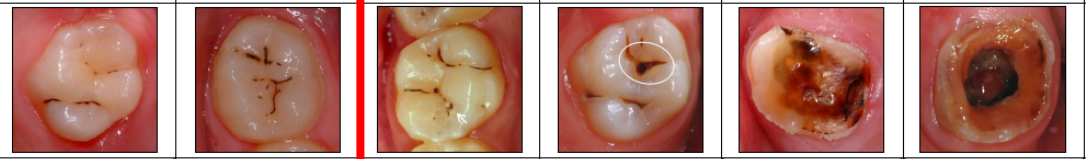
- No untreated decay
- Primary teeth only
- Primary & permanent teeth
- Permanent teeth only

A Few Examples

Untreated Decay = No | **Untreated Decay = Yes**

UniViSS (2008)

Universal Visual Scoring System for pits and fissures (UniViSS occlusal)

Second step: Discoloration Assessment	**First step:** Lesion Detection & Severity Assessment					
	First visible signs of a caries lesion	Established caries lesion	Microcavity and/or localised enamel breakdown	Dentin exposure	Large cavity	Pulp exposure
	Score F	Score E	Score M	Score D	Score L	Score P
Sound surface (Score 0)	No cavitations or discolorations are detectable.					
White (Score 1)						
White-brown (Score 2)						
(Dark) Brown (Score 3)						
Greyish translucency (Score 4)						

Source: https://www.ncbi.nlm.nih.gov/pmc/articles/PMC2760425/, accessed April 2021

White Discoloration

Not visible without prolonged air drying

Untreated decay = NO

May be visible without drying, fissures appear wider but no “break” in enamel integrity

Untreated decay = NO

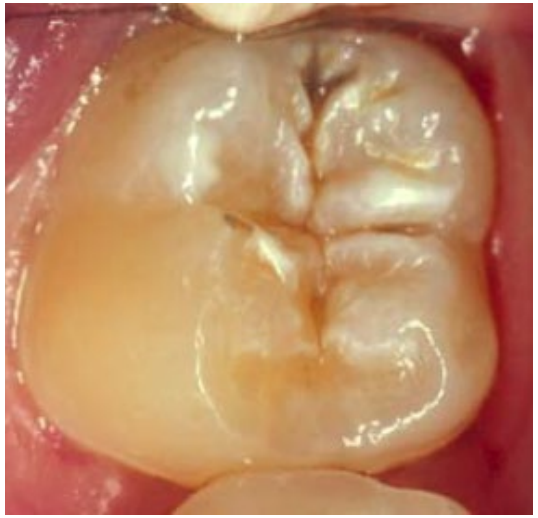
Has definitive break in enamel surface

Untreated decay = YES

White-Brown Discoloration

Not visible without prolonged air drying

Untreated decay = NO



Visible without drying, fissures appear dark & wider but no “break” in enamel integrity

Untreated decay = NO

Has definitive break in enamel surface

Untreated decay = YES

Dark Brown Discoloration

Visible without air drying, stain

Untreated decay = NO

Visible without air drying, stain

Untreated decay = NO

Has definitive break in enamel surface

Untreated decay = YES

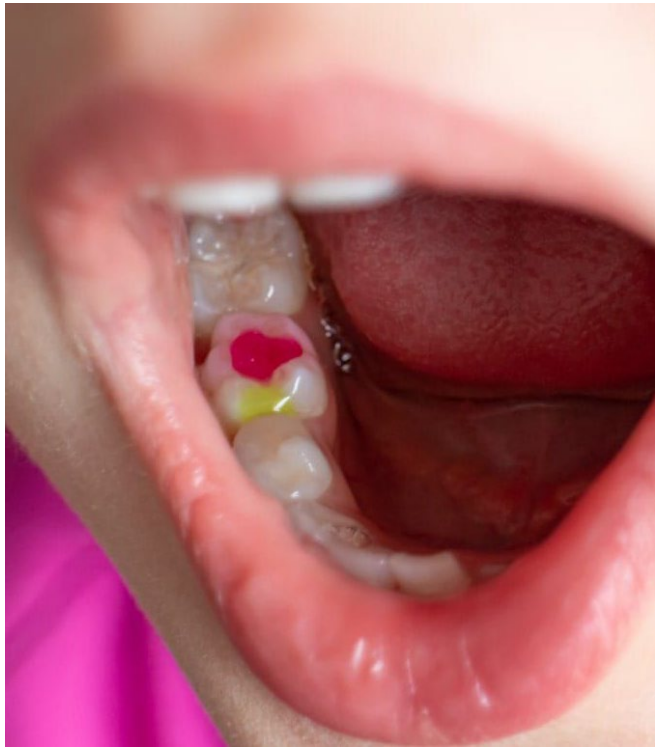
Rampant Decay

Rampant Decay

- Does the child have ***7 or more teeth*** with untreated or treated decay?

8 teeth with treated decay
Rampant Decay = Yes

11 teeth with untreated decay
Rampant Decay = Yes



1 tooth with treated decay
Rampant Decay = No

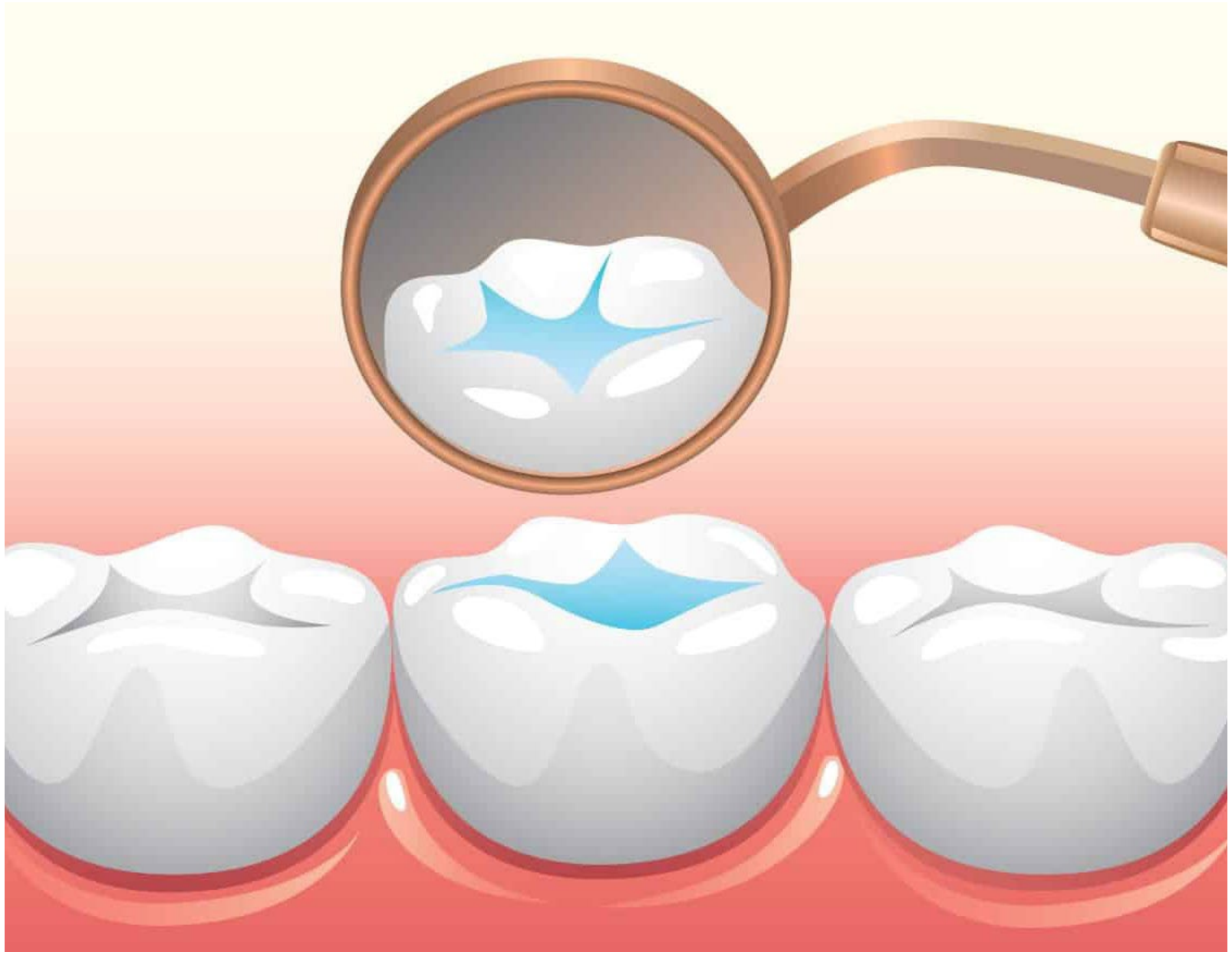
Rampant Decay

7+ teeth with untreated decay
Rampant Decay = Yes

Codes for Rampant Decay

No = 0-6 teeth with treated or untreated decay

Yes = 7+ teeth with treated or untreated decay



DENTAL SEALANTS **PERMANENT MOLARS**

Dental Sealants

- Permanent molars only
- DO NOT include primary molars or sealants on non-molar teeth
- Can use toothpick to lightly “feel” occlusal surface for sealants

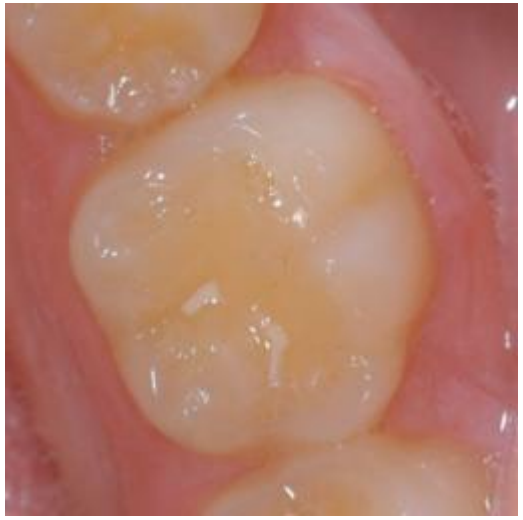
Transparent

Opaque

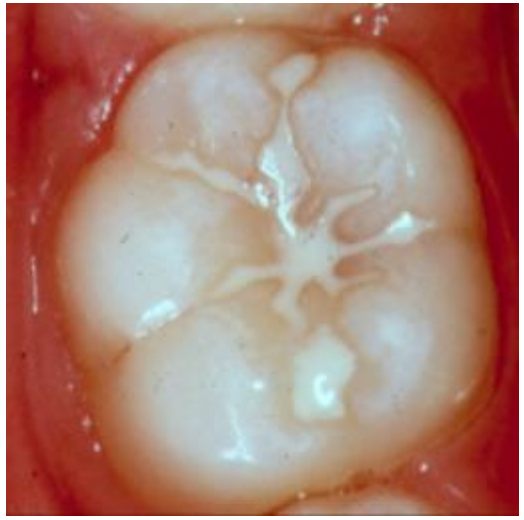
Glass Ionomer

Dental Sealants

- Include both partially and fully retained sealants



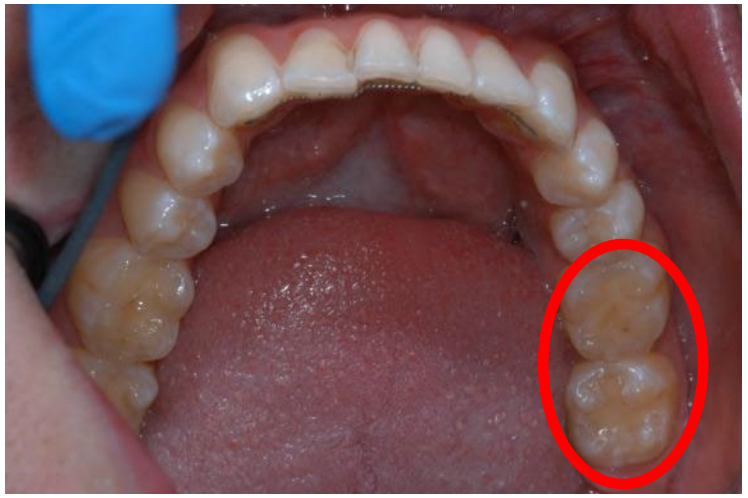
Partially Retained Sealant



Fully Retained Sealant

Is it a PRR or a Dental Sealant?

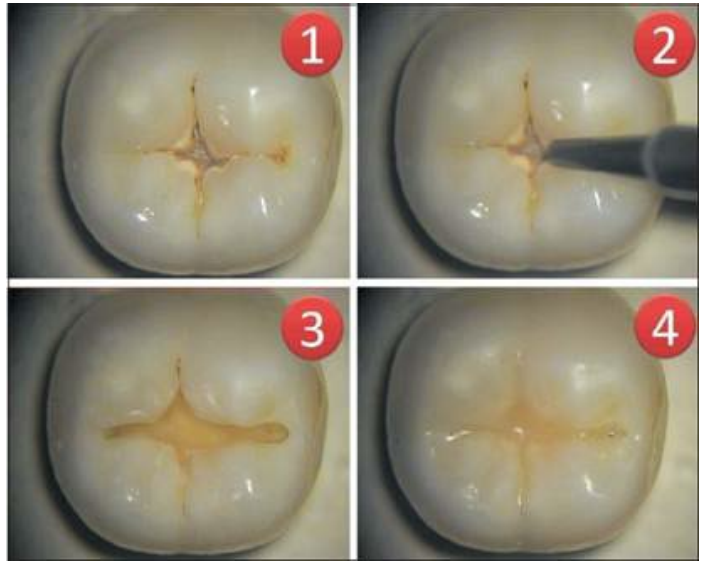
- It can be difficult to determine if a tooth has a preventive resin restoration (PRR) or a sealant
- If you see a definitive cavity preparation, code the tooth as having treated decay. A PRR is treated decay.



Preventive Resin Restorations
Treated Decay = Yes

Is it a PRR or a Dental Sealant?

- Can you see evidence of a prep?
  - If yes – PRR = treated decay
  - If no – sealant



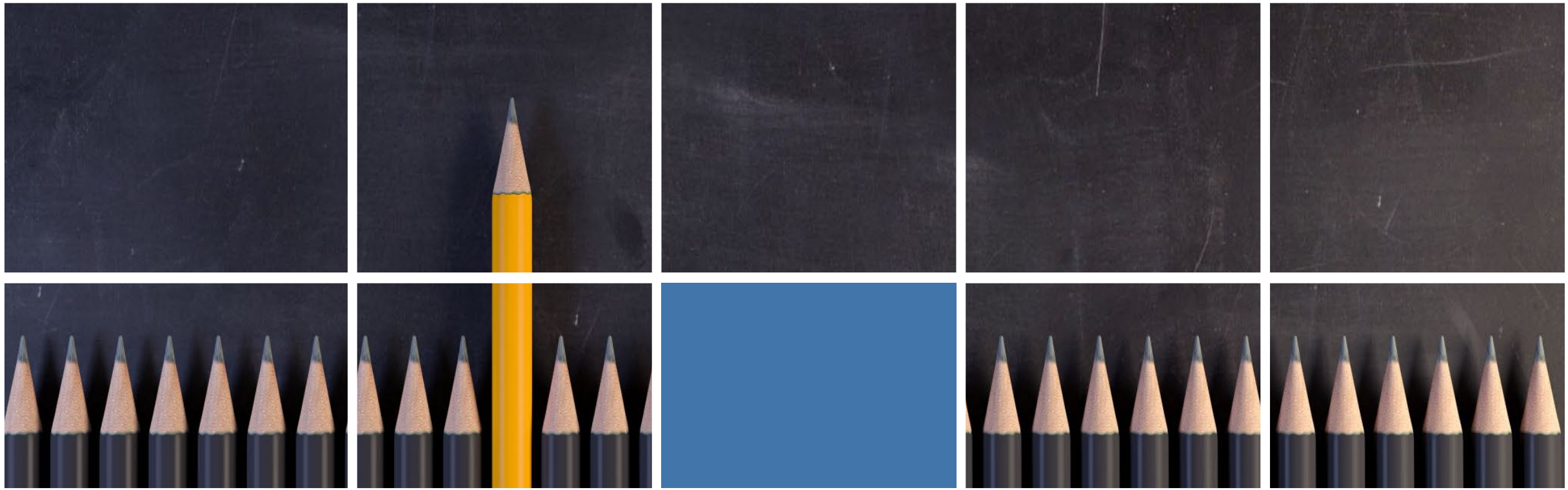
Treated Decay = Yes
Sealant = No

Codes for Dental Sealants

No = no sealants on permanent molars

- Includes children with no permanent molars

Yes = sealants on 1+ permanent molars



Special Circumstances

Congenitally Missing Teeth

Ignore congenitally missing teeth

Natural Exfoliation

Treated = No

Teeth Extracted for Ortho Reasons

- Teeth extracted for orthodontics are not treated decay

This person has missing premolars because of orthodontics so they do NOT have treated decay.

Treated Decay = No

Injured Teeth

- Do not count teeth that are injured or treated because of injury

Untreated = No
Treated = No

Untreated = No
Treated = No

Fused Teeth

Ignore fact that teeth are fused.

Include Supernumerary Teeth

Untreated = No
Treated = No

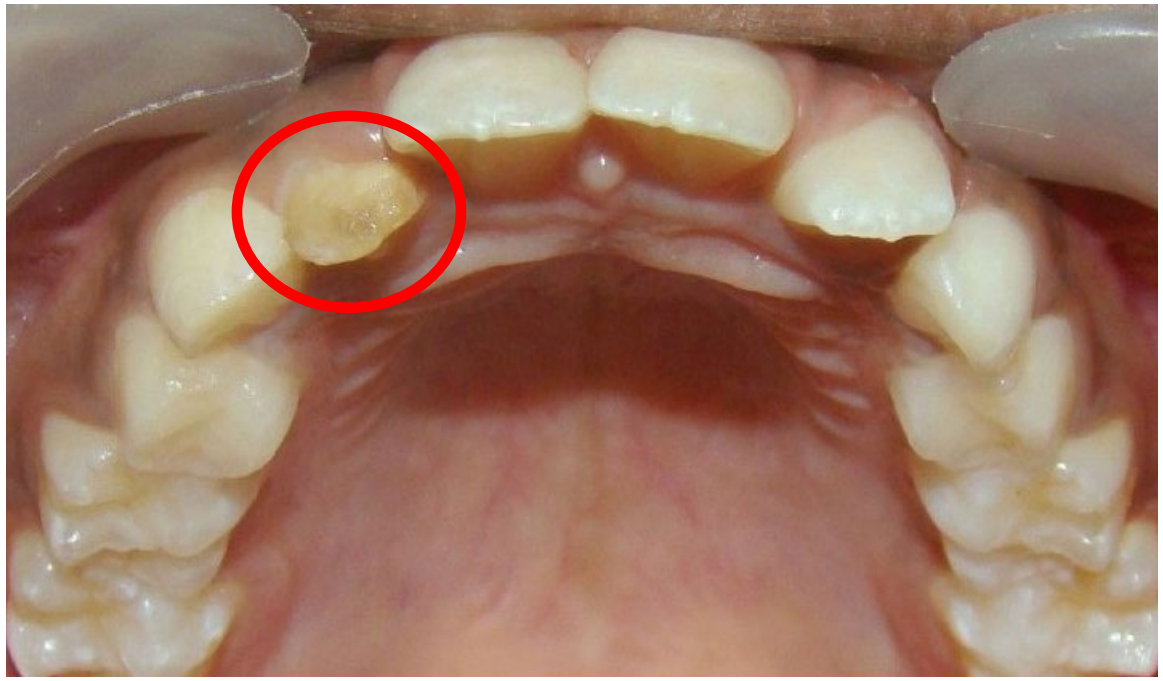
Untreated = Yes
Treated = No

Developmental Defects of the Enamel

Opaque Defect
Untreated = No

Pitted Defect
Untreated = No

Generalized Lack of Enamel



7-year-old

Untreated decay = No

Pitted Enamel Defect

8-year-old

Untreated Decay = No

Molar-Incisor Hypomineralization

Untreated = No

Source: jada.ada.org/article/S0002-8177(20)30160-4/fulltext

Enamel Defects & Decay

Untreated Decay = Yes

Enamel Defects & Decay

Linear defect
Untreated Decay = No

Linear defect plus decay
Untreated Decay = Yes

Enamel Defects & Decay

NEED FOR DENTAL CARE

(FOLLOW-UP CARE)

Need for Dental Care (Treatment Urgency)

- 3 levels based on how soon a child should visit the dentist for a clinical diagnosis and any necessary ***restorative dental care***
  - Urgent need
  - Early care needed
  - No obvious problem (No)

Need for Dental Care (Treatment Urgency)

- Urgent need
  - Needs dental care within the next week because of signs or symptoms that include ***pain, infection, or swelling***
  - A child with an abscess should always be coded as urgent
    - Even if the abscess is draining

Need for Dental Care (Treatment Urgency)

This person has an abscess, so they need URGENT care

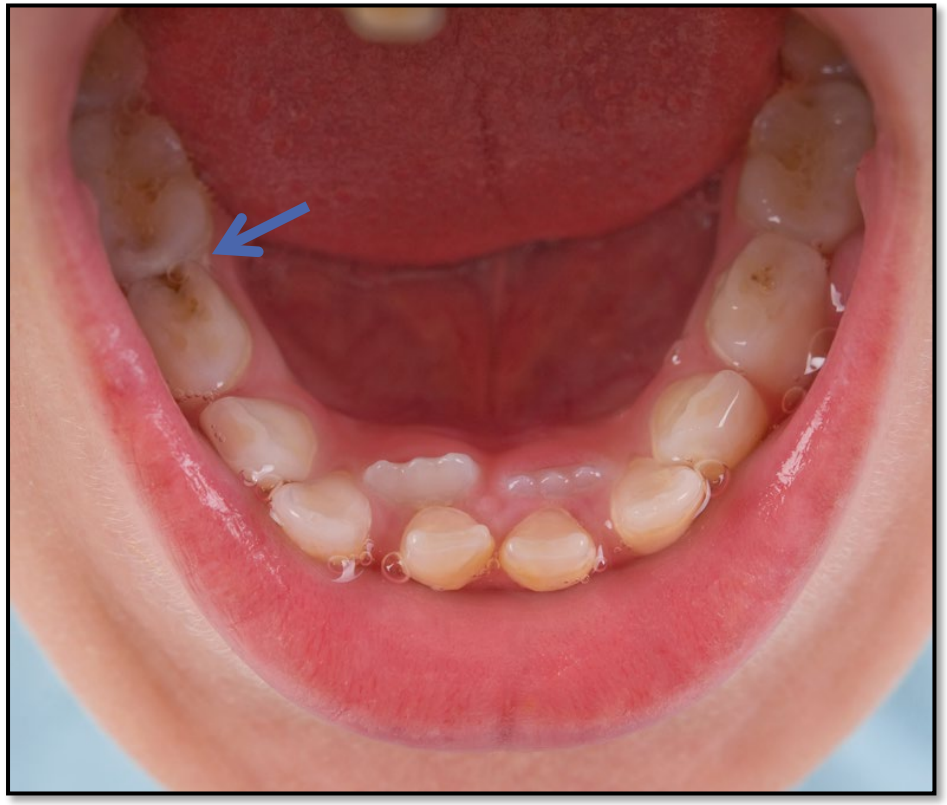
Need for Dental Care (Treatment Urgency)

This child has a draining abscess and should be coded as URGENT care

Need for Dental Care (Treatment Urgency)

- Early dental care
  - Needs to see a dentist because of untreated decay or broken restorations but they do not have pain or an infection
  - Should see a dentist within the next several weeks or before their next regularly scheduled dental appointment
  - ***DO NOT INCLUDE CHILDREN NEEDING ONLY A CLEANING OR SEALANTS***

Need for Dental Care (Treatment Urgency)

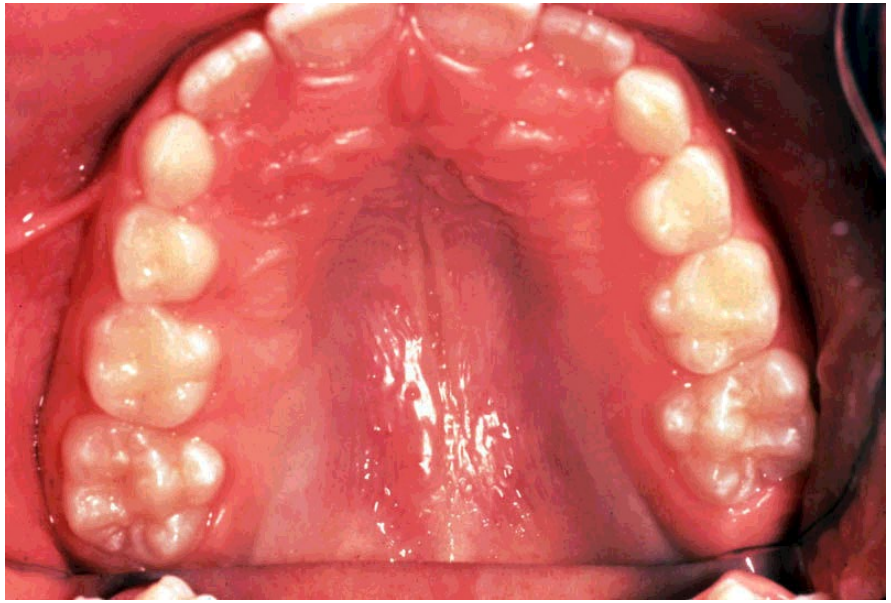


This child needs EARLY dental care

Need for Dental Care (Treatment Urgency)

- No obvious problems
  - Children with no cavitated decay or other dental problems requiring early attention are considered to have no obvious problem, which means that they should receive routine dental checkups
  - Decay only on primary teeth about to be exfoliated
    - Child can have decayed teeth but not need treatment
  - ***Children needing only a prophy or another preventive service should be coded as having no obvious problems***

Need for Dental Care (Treatment Urgency)



This child has no obvious need for dental care

Need for Dental Care (Treatment Urgency)

This child has no obvious need for dental care

Codes for Need for Dental Care

- No (0) = no obvious need for care
- Early (1)= needs early dental care
- Urgent (2) = needs urgent dental care

Examples

Example

Treated = Primary only
Untreated = Primary only
Rampant = No (6 teeth)
Sealants = No
Urgency = Early

Example

Treated	=	Primary only
Untreated	=	No
Rampant	=	No (4 teeth)
Sealants	=	No
Urgency	=	No

Example

Treated	=	Primary only
Untreated	=	No
Rampant	=	No (2 teeth)
Sealants	=	No
Urgency	=	No

Example

Treated = No
Untreated = Primary & permanent
Rampant = No (4 teeth)
Sealants = No
Urgency = Depends

Example

Treated = No
Untreated = No
Rampant = No
Sealants = Yes
Urgency = No

Do not count dental sealants as treated

Example

Treated = Primary only
Untreated = No
Rampant = Yes (14 teeth)
Sealants = No
Urgency = No

Example

Treated = No
Untreated = Permanent only
Rampant = No
Sealants = No
Urgency = Depends

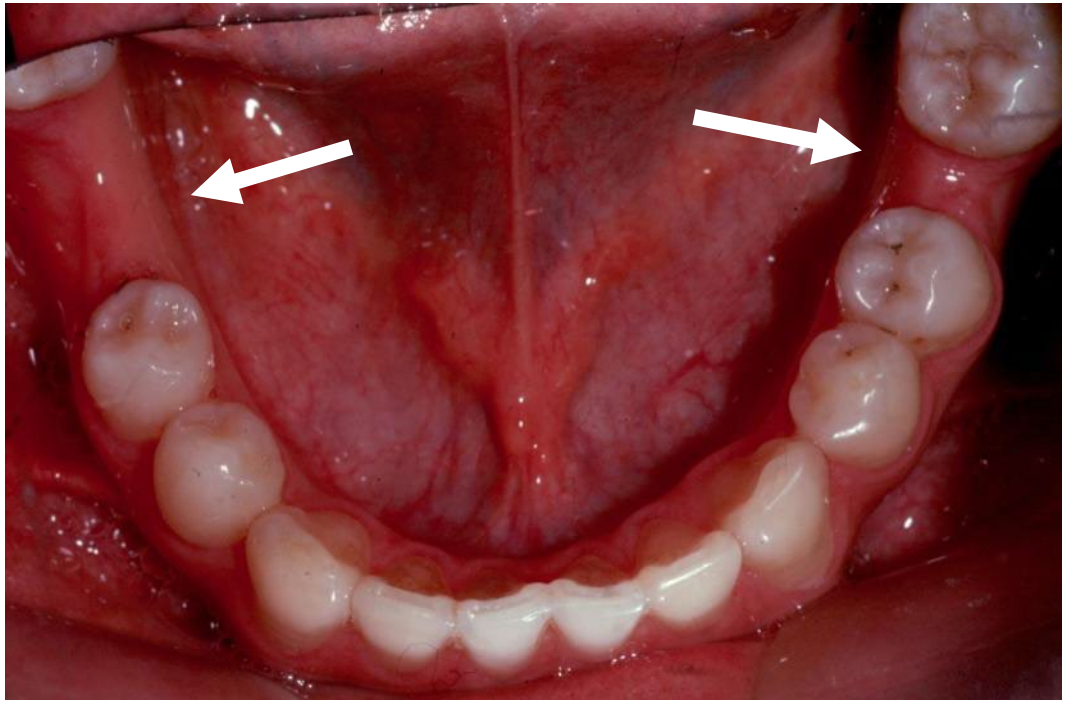
Example

Untreated = Permanent only

Sealants = Yes

Treated = Permanent only

Example

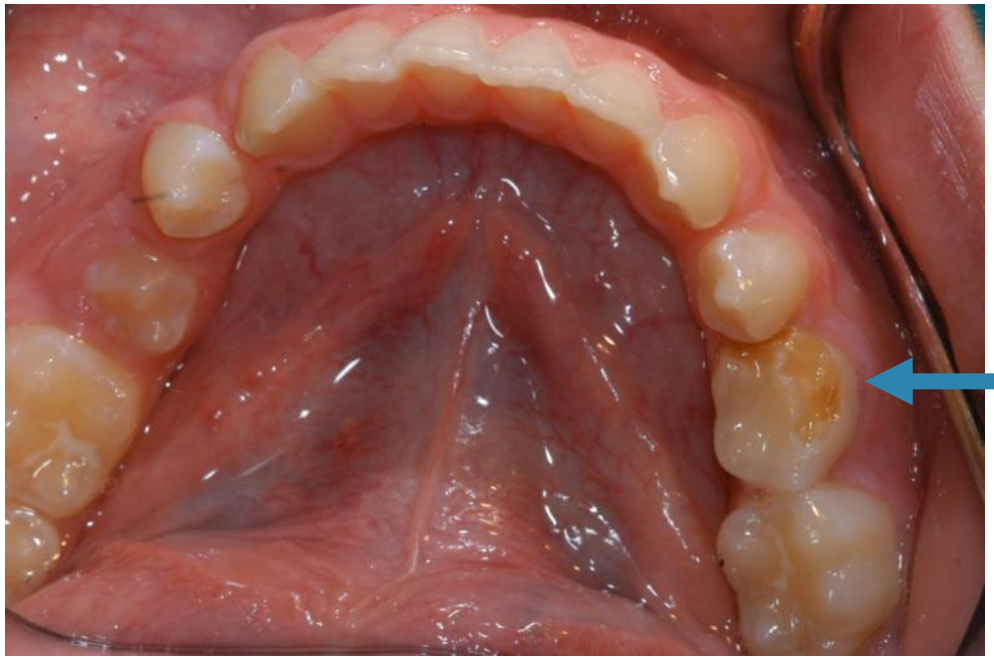


Treated = Permanent only
Untreated = Permanent only
Rampant = No (5 or 6 teeth)
Sealants = No
Urgency = Depends

Example

Treated = No
Untreated = No
Rampant = No
Sealants = Yes
Urgency = No

Example



Treated = No
Untreated = No
Rampant = No
Sealants = No
Urgency = No

Working with Schools

Working with Schools

- Arrive 20-30 minutes early
- Check in at office – introduce yourself to office staff
  - Have government issued photo ID available (some schools require it)
  - Pick up class rosters
  - Put recess/lunch time on class roster
- Ask where they want you to do the screenings
- **BE FLEXIBLE!!**

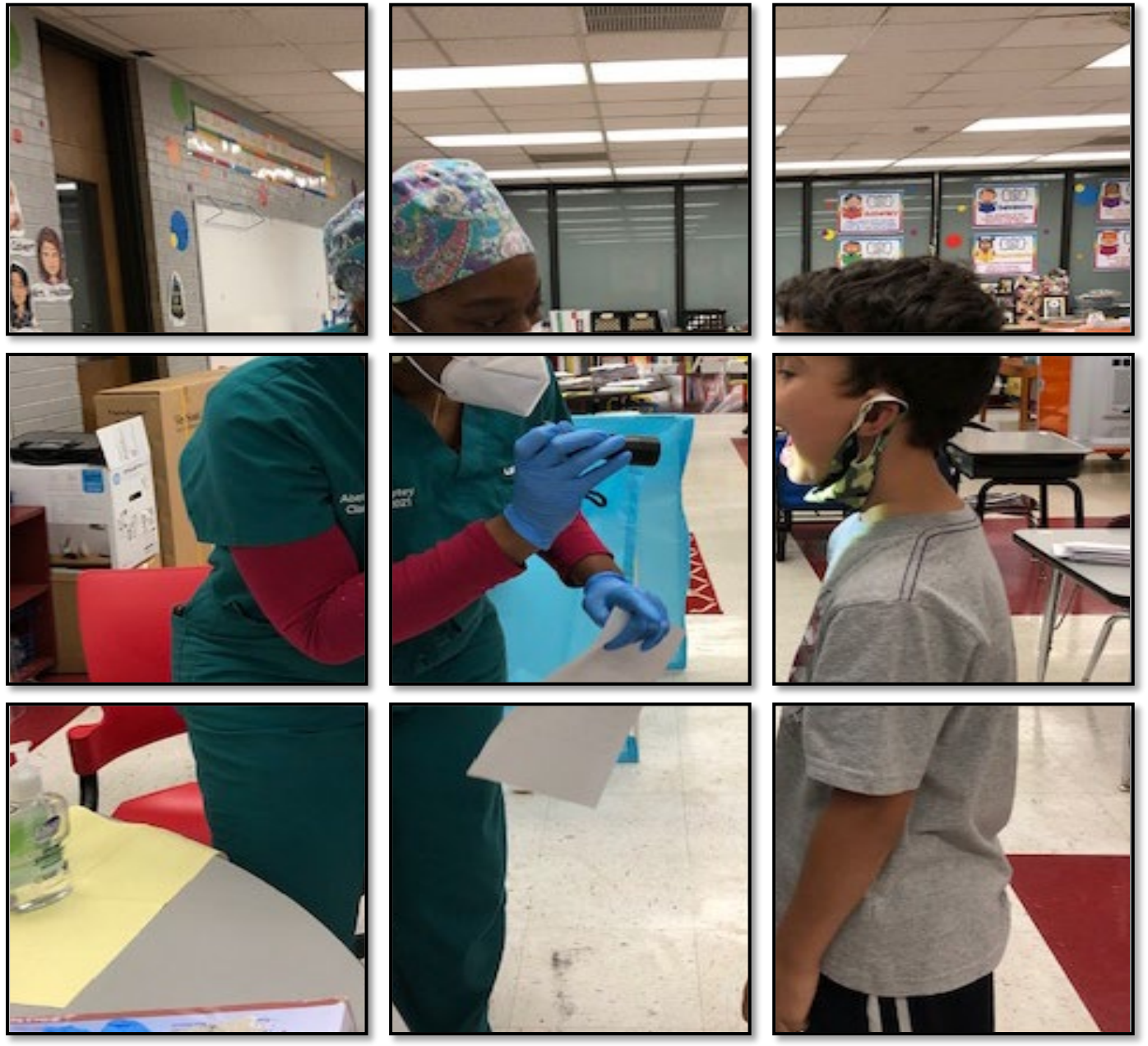
Working with Schools

- Set up screening site with available tables/chairs
- Keep wastebasket away from kids
  - ***Do not give them mirrors or gloves***

Working with Schools

- Bring 10-20 kids at a time
  - I like having an entire classroom at a time
  - Ask teacher to lineup children in alphabetical order
  - Ask teacher to give child their consent form (if appropriate)
- Be quick and respective of class time
  - ***Do not chat with each child – "look & leave"***
- Give teacher (or nurse) referral letters & toothbrushes
  - ***DO NOT give to children***
- Dispose of garbage before leaving
- Check out at office and thank staff

How to Screen a Child



How to Screen a Child

- Check to make sure child has appropriate permission
- Complete oral health screening
  - **ALWAYS FOLLOW THE SAME PATTERN**
  - Start on tooth #3…
    - Scan upper & lower arch for untreated/treated decay
    - Determine if child has rampant decay
    - Scan permanent molars for sealants
    - Determine treatment urgency
    - Enter screening results
- Complete parent referral letter

How to Screen a Child

- Child can stand or sit
  - ***Faster if child stands***
- Screener can stand or sit
  - I stand or sit/lean on edge of table

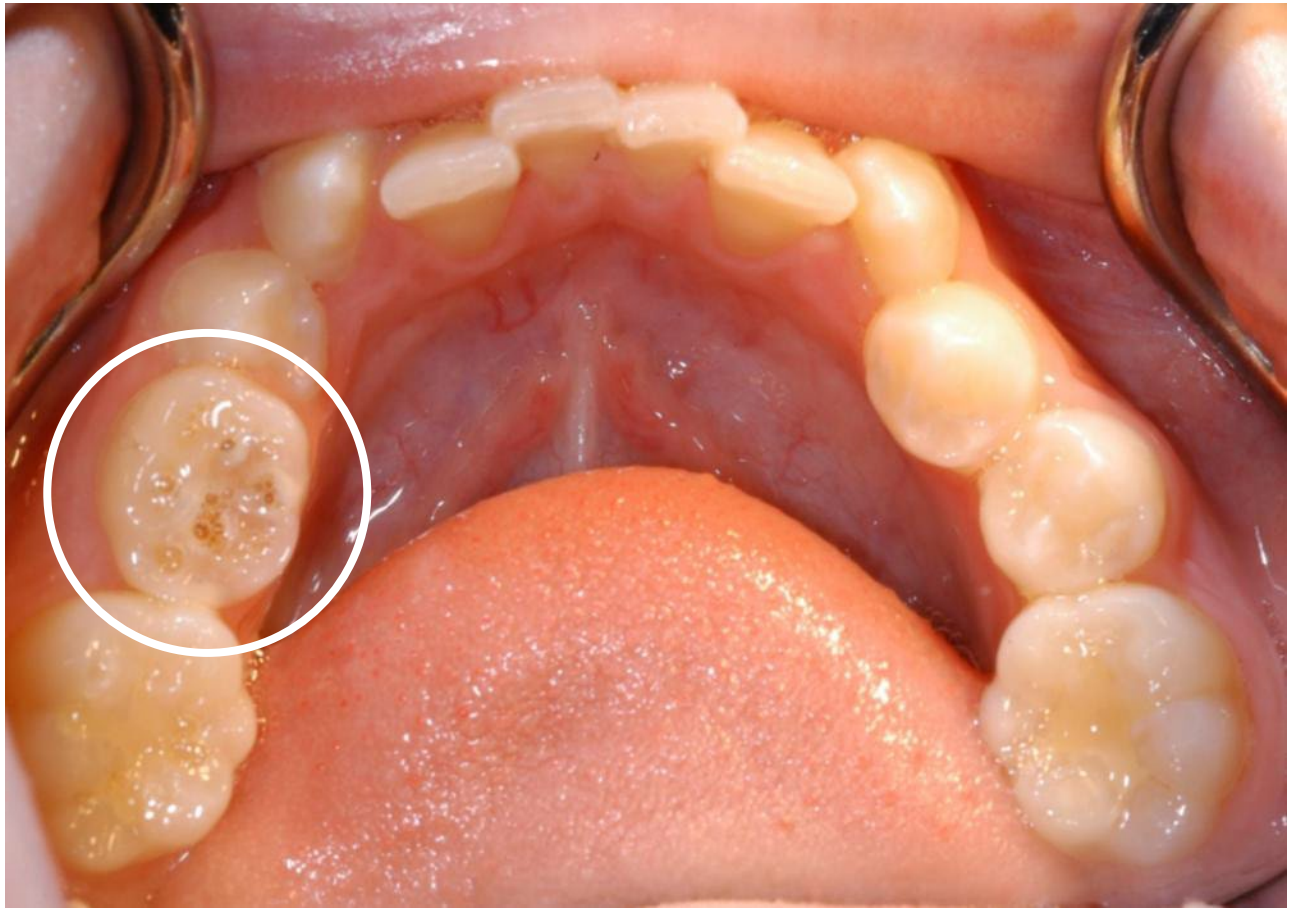
Any Questions?

Training Test

Do these teeth have untreated decay?

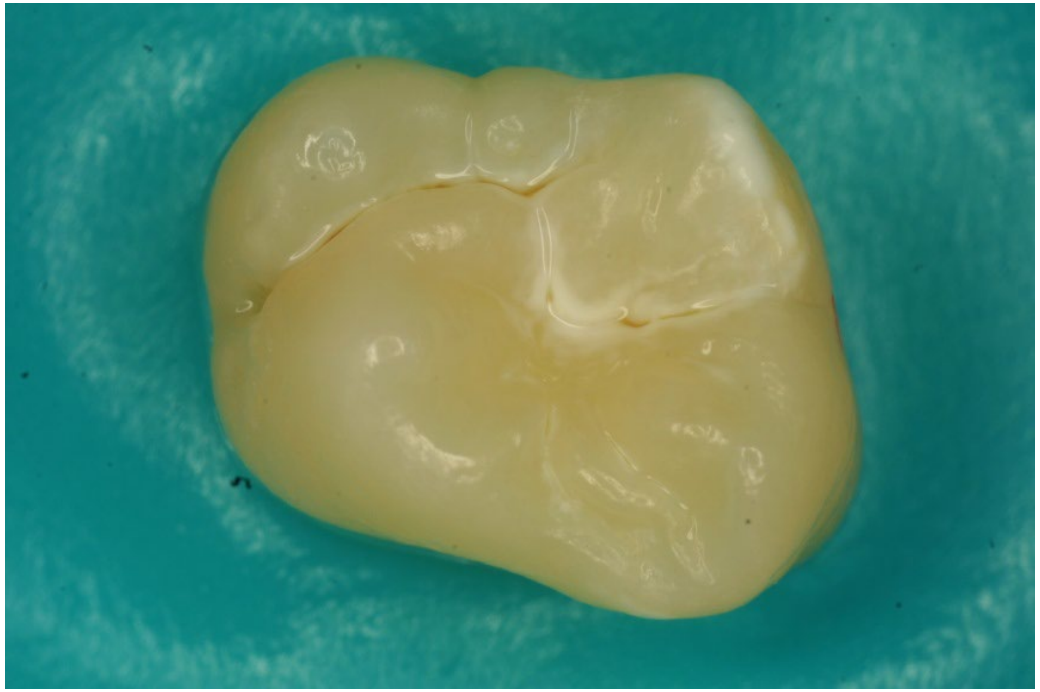
No/Yes

#1: Untreated Decay?



#2: Untreated Decay?

#3: Untreated Decay?

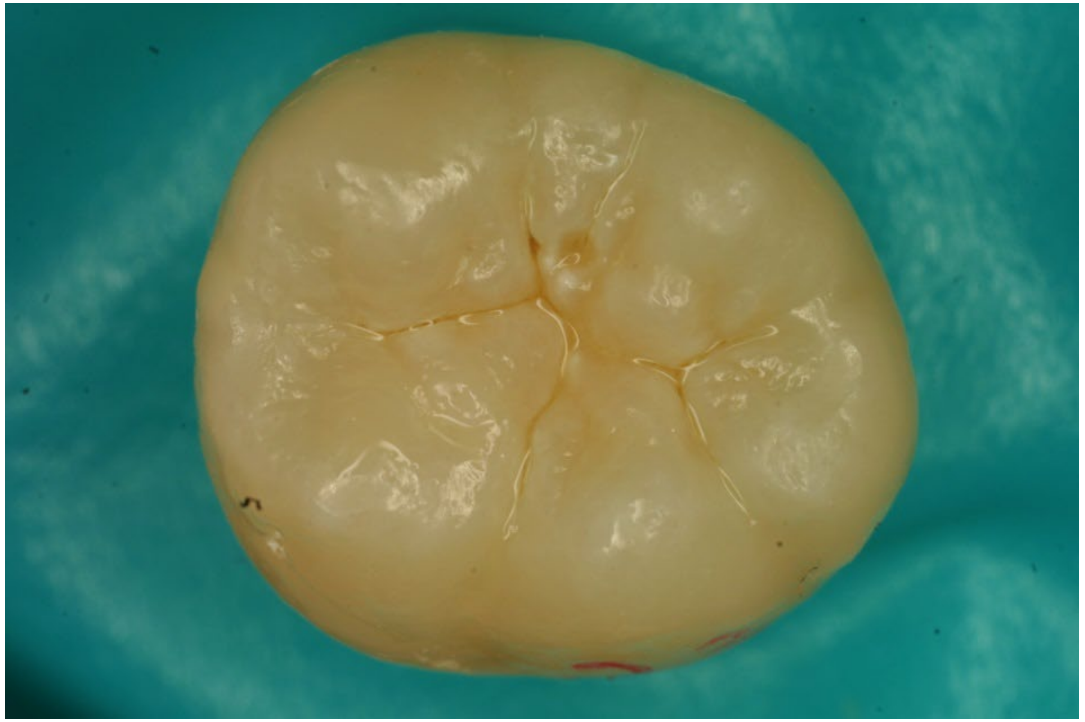


#4: Untreated Decay?

#5: Untreated Decay?

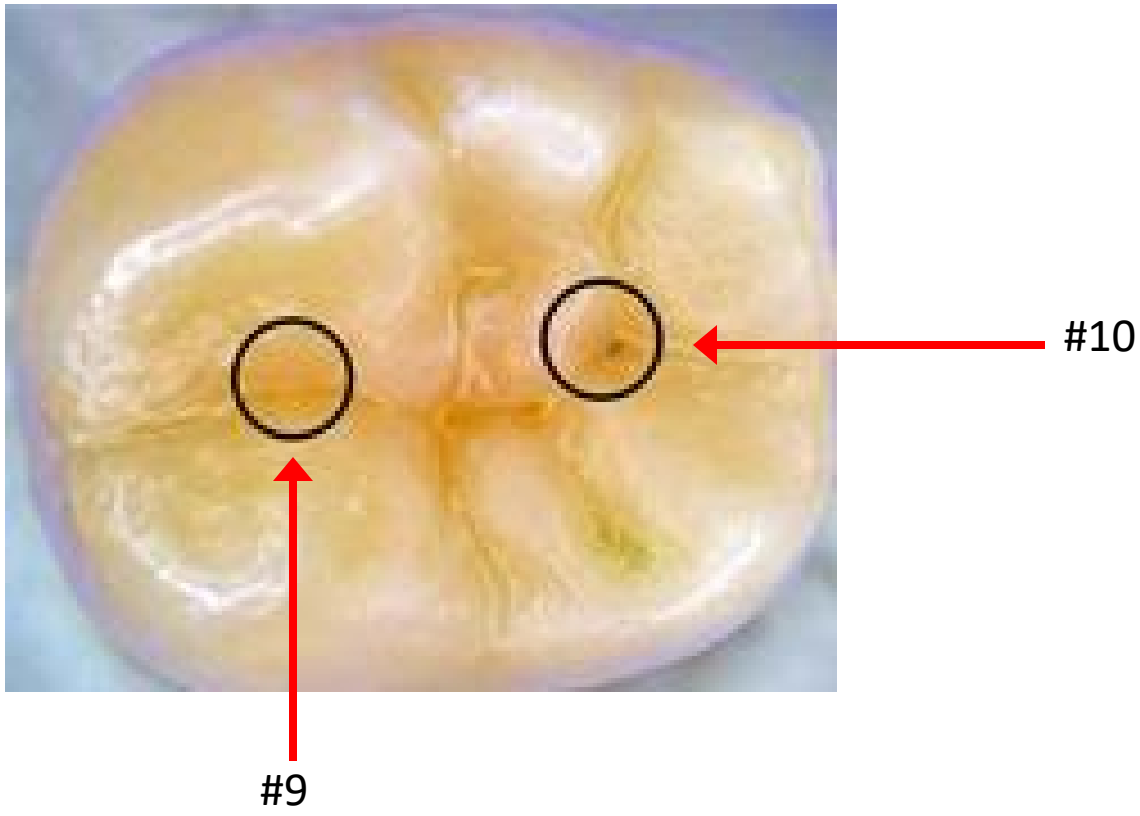
#6: Untreated Decay?

#7: Untreated Decay?



#8: Untreated Decay?

#9 & #10: Untreated Decay?

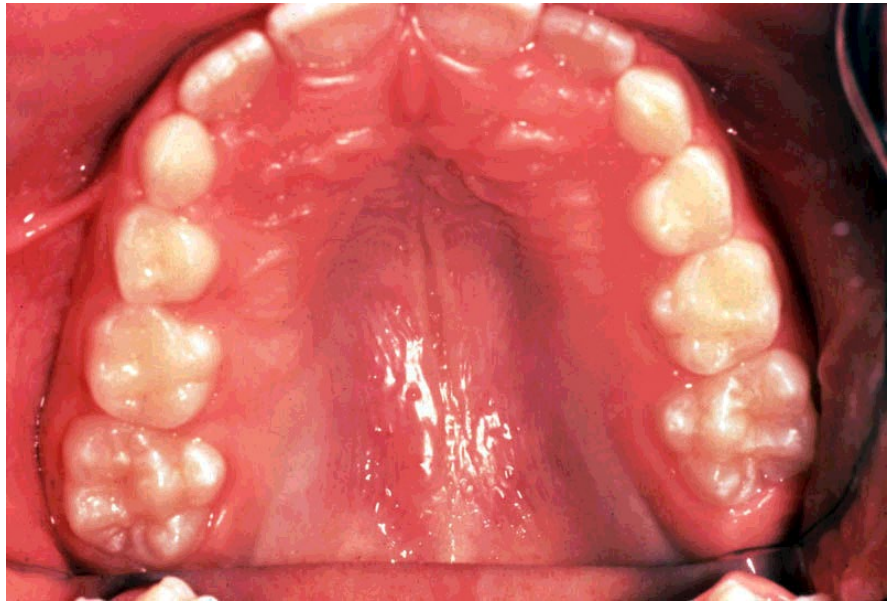


#11-#14: Untreated Decay?

#15: Untreated Decay?

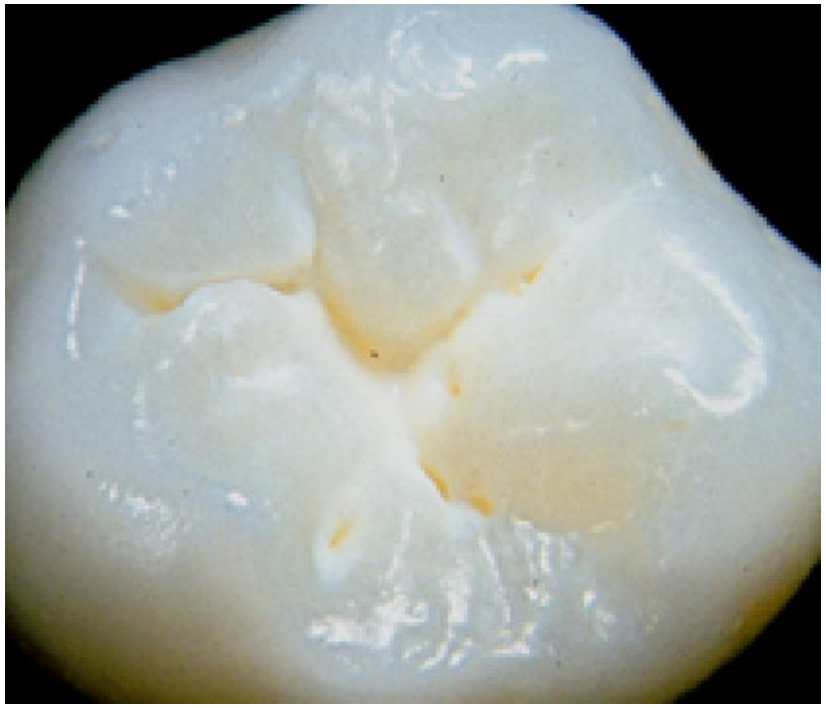
#16: Untreated Decay?

#17: Untreated Decay?



#18: Untreated Decay?

#19: Untreated Decay?

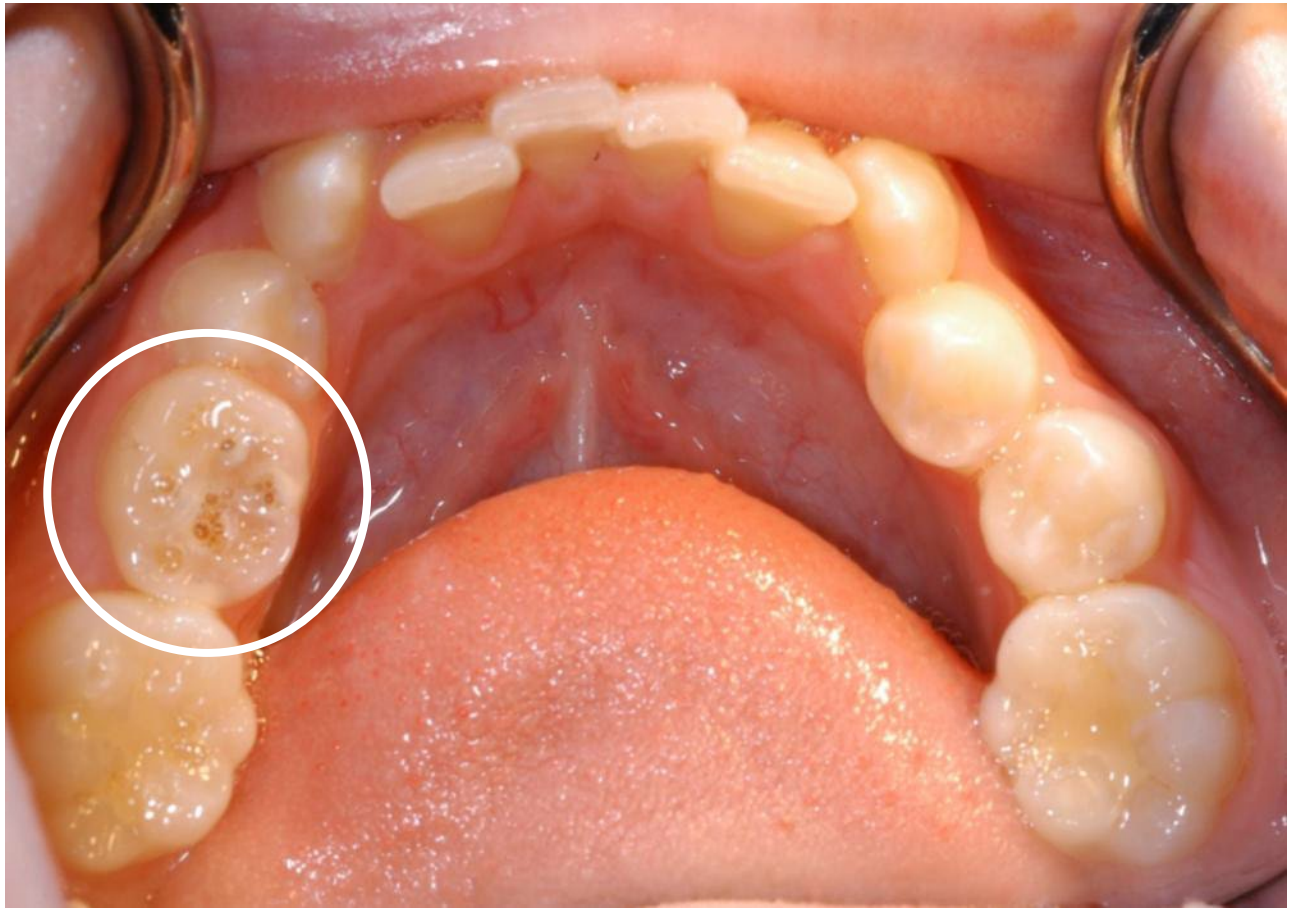


#20: Untreated Decay?

Answer Key

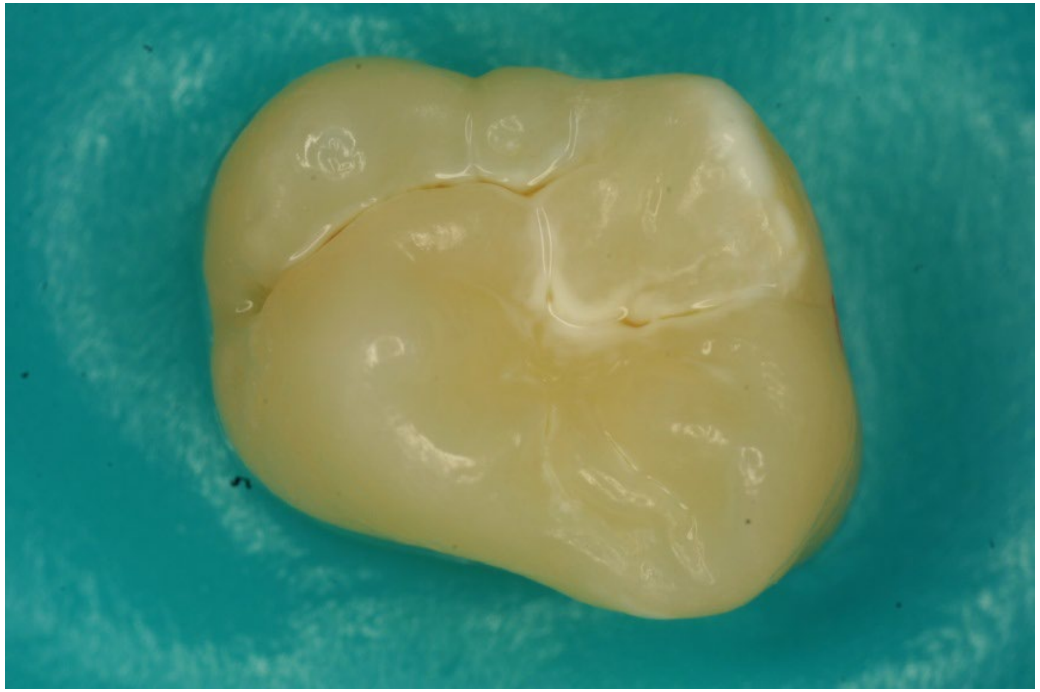
- 1: Enamel defect
- 2: Yes
- 3: No
- 4: Yes
- 5: No
- 6: No
- 7: No
- 8:Yes
- 9:No
- 10: No
- 11: No
- 12: No
- 13: No
- 14: Yes
- 15: No
- 16: Yes
- 17: No
- 18: Yes
- 19: No
- 20: No

1: Enamel Defect



2: Obvious Break in Enamel

3: Decalcification but no Break in Enamel

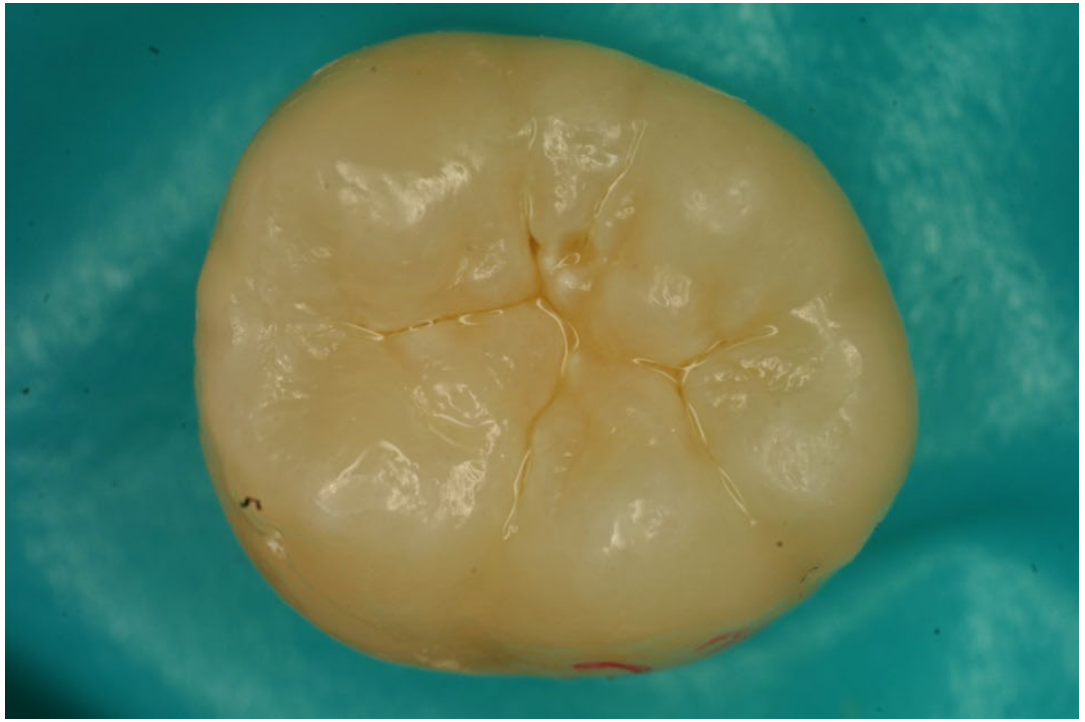


4: Break in Enamel & Shadow

5: Fracture Due to Accident - No Decay

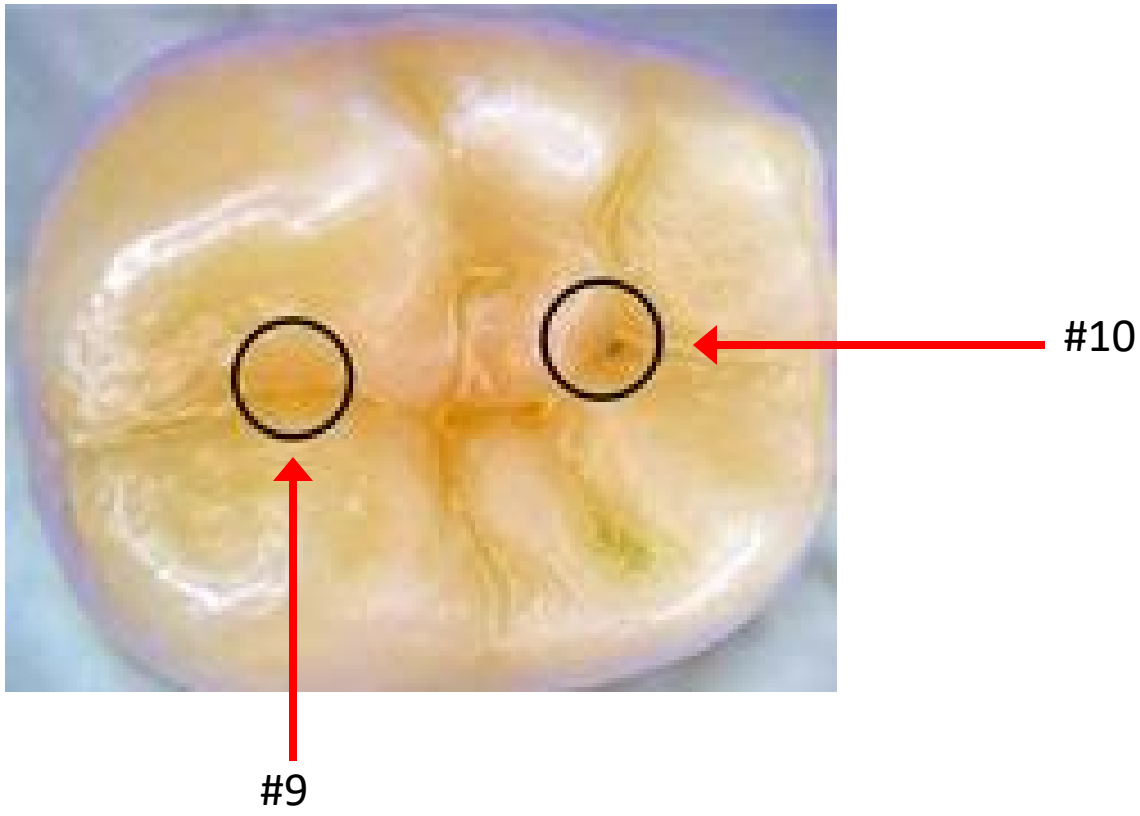
6: Abscess but No Decay

7: No Break in Enamel

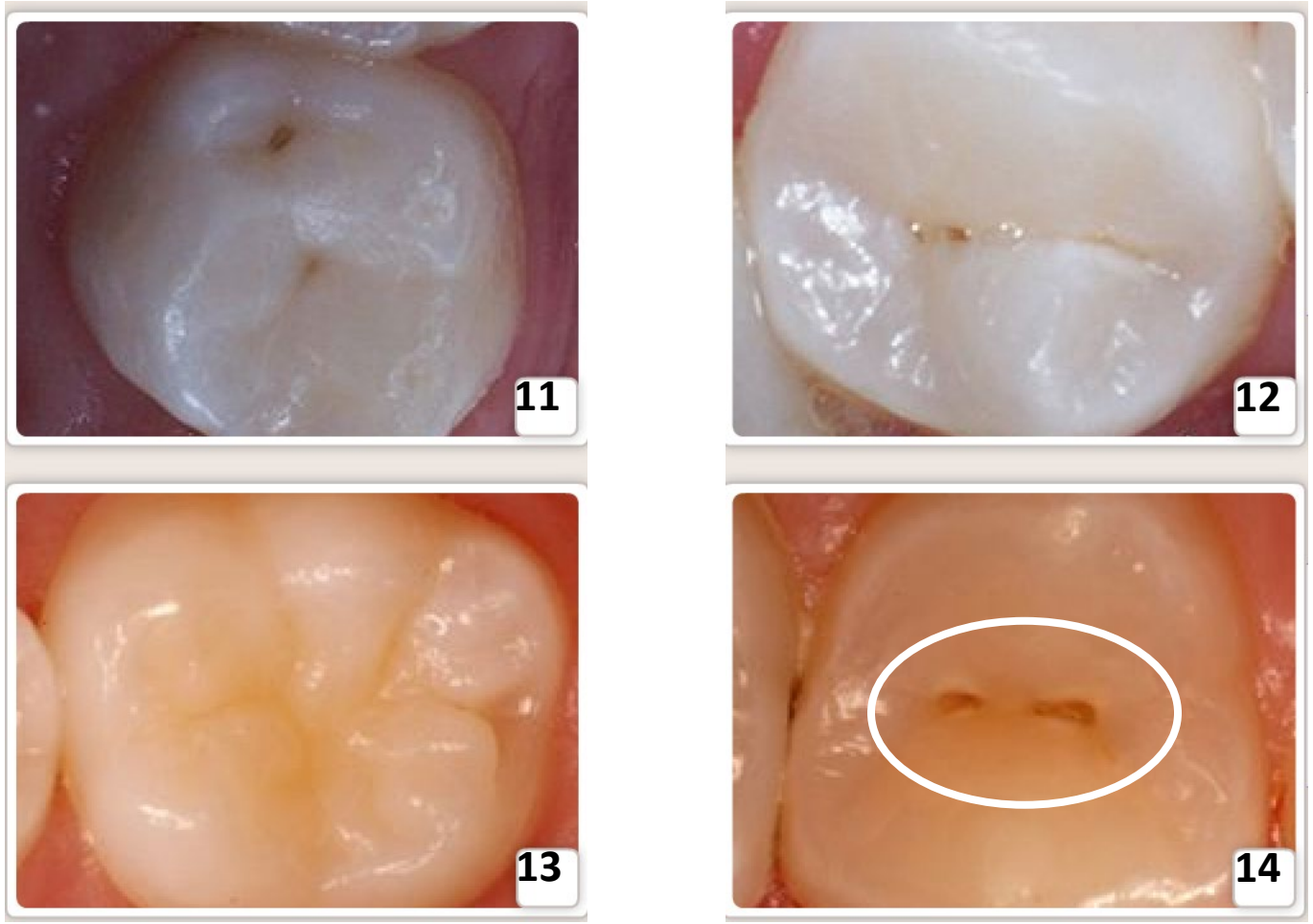


8: Break in Enamel

9 & 10: No Break in Enamel



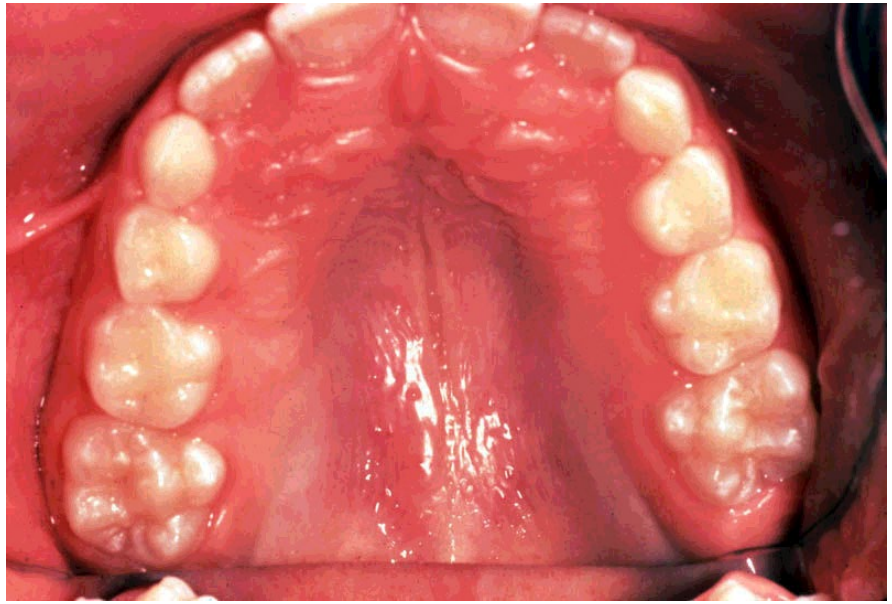
These are Tricky - Only 14 is Decay



15: Discoloration but No Enamel Break

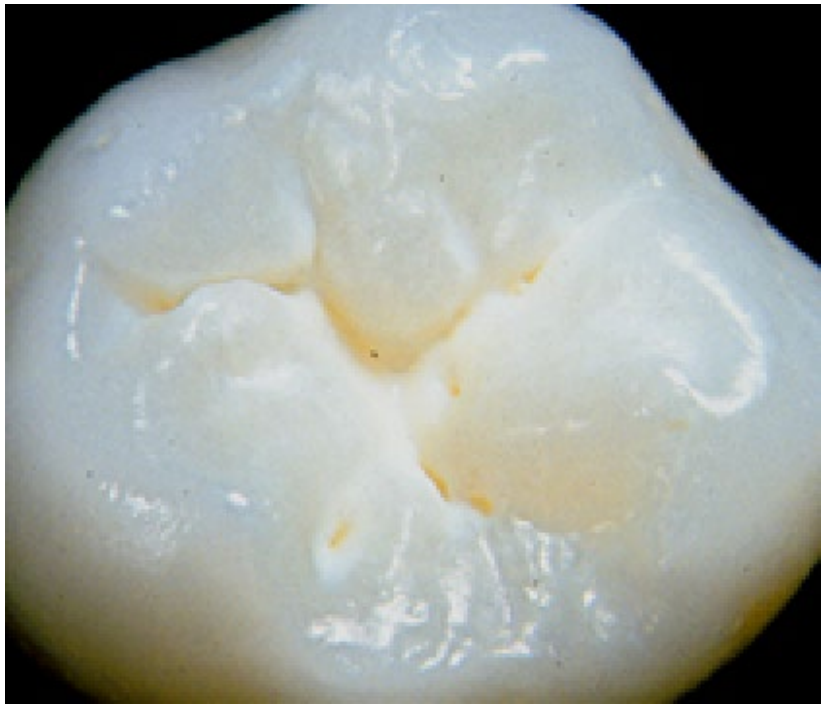
16: Enamel Break & Discoloration

17: No Decay



18: Enamel Break

19: Demineralization But no Enamel Break



20: Discoloration But no Enamel Break

And that's a wrap!

Thank you for participating, and I wish you luck in your upcoming oral health survey!