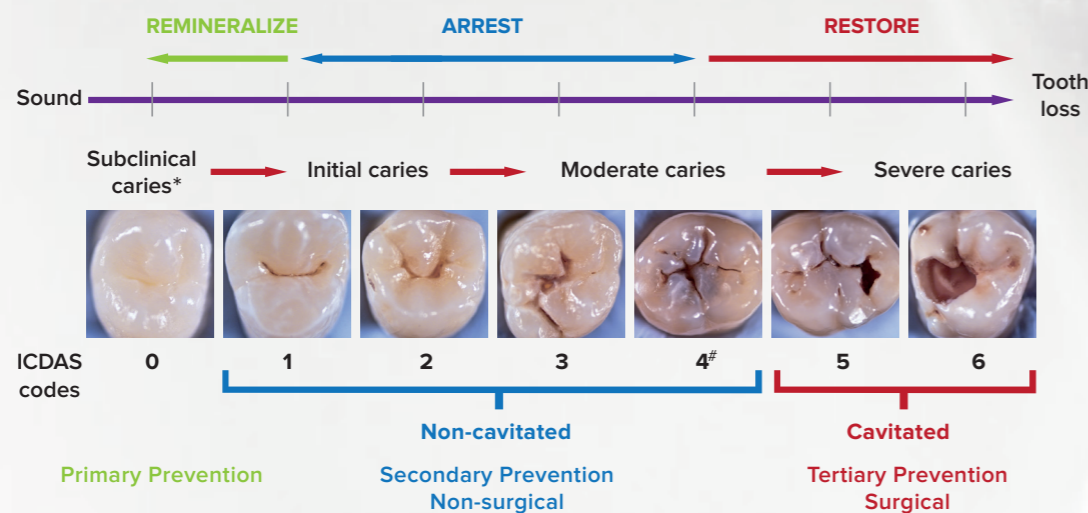


Caries Prevention and Management Chairside Guide

The goal is to reduce the impact of caries development by intervening as soon as possible to manage further tooth destruction, and reversing the caries process in favour of remineralization. Ideally, the management of early caries lesions should involve the least invasive approach capable of preventing disease progression and empowering the patient to improve and maintain their own oral health.

Understanding Lesion Activity

The essential challenge is to differentiate between firstly a lesion which is active today and continuing to suffer net loss of mineral, with demineralization being out of balance with remineralization, as opposed to a lesion of similar severity which has been “switched off” and become **inactive**, i.e. arrested or remineralized. The clinical and economic implications of making the correct activity assessment are profound.



ICDAS Dental Terms	Sound	First visual change in enamel	Distinct visual change in enamel	Localized enamel breakdown	Underlying dentine shadow	Distinct cavity with visible dentine	Extensive cavity with visible dentine
ICDAS Detection	0	1	2	3	4 [#]	5	6

*caries refer to carious lesions [#]dentine shadow may require surgical treatment in some cases

Determining Caries Risk

Assessing a patient’s caries risk is essential in determining the appropriate level of preventive care. Previous caries experience is often the best indicator but several other factors should be considered when assessing risk.

HIGH	MODERATE	LOW
3 or more incipient or cavitated primary or secondary caries lesions in the last 2 years	1 or 2 incipient or cavitated primary or secondary caries lesions in the last 2 years	No incipient or cavitated primary or secondary caries lesions during the last 2 years and no change in the risk factors that may increase caries
Additional preventive measures are indicated: <ul style="list-style-type: none"> • Patient education (oral hygiene, dietary counselling) • Protective factors (fluoride, sealants, salivary stimulation) 		No additional interventions indicated

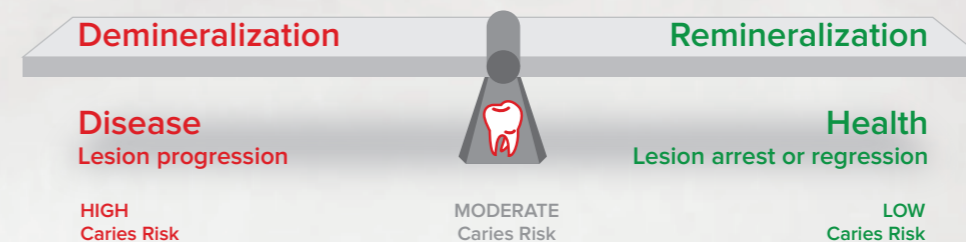
Balancing Caries Pathological & Protective Factors

Pathological Factors

- ▶ Frequent consumption of dietary sugars
- ▶ Inadequate fluoride
- ▶ Biofilm homeostatic imbalance
- ▶ Salivary dysfunction

Protective Factors

- ▶ Tooth-healthy diet
- ▶ Fluoride toothpaste twice daily
- ▶ Professional topical fluoride
- ▶ Preventive and therapeutic sealants
- ▶ Normal salivary function



Action Points

- ✓ Assess lesion activity
- ✓ Target appropriate level of intervention
- ✓ Prevent more damage
- ✓ Assess caries risk
- ✓ Favour preventive measures
- ✓ Minimize surgical intervention
- ✓ Convert actively progressing lesions into arrested controlled ones
- ✓ Improve patients’ oral health behaviours

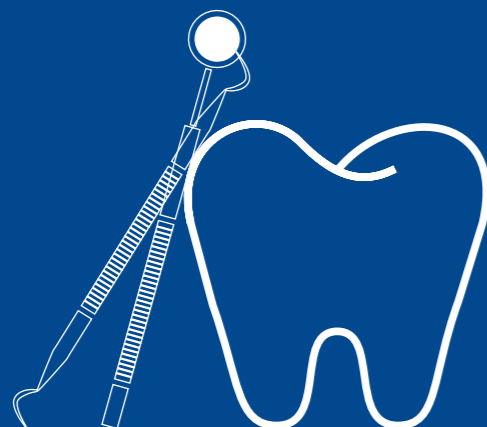
The following caries risk assessment system is age-specific to account for varying risk factors throughout life

Universal risk factors

- Active or previous caries lesions
- Low socio-economic status
- Frequent consumption of dietary sugars
- Reduced salivary flow or salivary pH
- Poor oral hygiene
- Suboptimal fluoride exposure
- Familial risk factors (educational level of parents'/sibling's oral health status)

1

Caries risk assessment



- Long-term consumption of sweetened medication
- Obesity
- Illness or disability > dexterity and/or compliance problems

- Post eruption of permanent teeth:
- Fixed orthodontic appliance
 - Developmental dental conditions (MIH, amelogenesis imperfecta etc.)

- Alcohol and tobacco consumption

- Poor oral health knowledge
- Information about education/school system (canteen, boarding school)

- Unhealthy diet
- Eating disorders

- Medical history (existing condition or disability)
- Wisdom teeth eruption
- Mouth guard

- Genetic background
- Mouth piercing
- Drugs

- Cariogenic diet

- Medical history (general and oral health pathologies/comorbidities)
- Polypharmacy

- Suboptimal restorations, dental prosthesis and dentures

- Family framework and support network
- Desocialization: loss of hygiene concept

- Taste disturbance and change in dietary habits (risk of dietary deficiencies and increasing sugar consumption)
- Functional problems with eating
- Dietary advice balances patient needs and expectations

- Increased level of dependance, reduction in fine motor skill or possible disabilities

- Removable prosthesis history: tooth- or implant-borne denture
- Complex existing restorations with poor oral health

2

Professional maintenance



- For all children aged 3 and above, 22,600 ppm fluoride varnish application at least twice per year up to 4 times a year for high-risk children

- Fissure sealants should be placed upon eruption of first permanent molars

- In case of high caries risk, professional cleaning at least twice a year
- In case of high caries risk, first and second permanent molars sealing
- In case of high caries risk, 22,600 ppm fluoride varnish application every 3 months during 1 year

- Non-cavitated caries lesions: 22,600 ppm fluoride varnish application 4 times a year
- Remineralization agents, resin infiltration techniques or therapeutic sealants as possible remedies
- Lesions requiring restoration: preserve tooth structure where possible; ensure topical fluoride (gel/foam/varnish) treatment is delivered after restoration
- Seal or repair defective restorations where possible. Replace only when necessary

- Care-facility programme relying on patients' needs and abilities
- Prophylactic cleaning with removal of plaque retentive features
- Filling of sealants and lesions by bio-active fluoride seals
- Antiseptic varnish application on purified surfaces with/or 22,600 ppm fluoride at least twice per year up to 4 times a year

3

Patient & education maintenance

- Twice daily (after breakfast and just before bed) supervised brushing with fluoride toothpaste (parents/guardians)

RANGE OF FLUORIDE TOOTHPASTE*:

- 6–12 months: 1,000 ppm fluoride below rice size on compress or baby toothbrush
- 1–3 years old: 1,000 ppm fluoride below rice size
- 3–6 years old low caries risk: 1,000 ppm fluoride pea size
- 3–6 years old high caries risk: 1,450 ppm fluoride pea size



- Twice daily (after breakfast and just before bed) partial supervised brushing with fluoride toothpaste (parents/guardians)

RANGE OF FLUORIDE TOOTHPASTE*:

- Low caries risk: 1,000/1,500 ppm fluoride
- High caries risk: 1,500 ppm fluoride from 6–10 years old & 2,500 ppm fluoride from 10–12 years old

- 2 minutes twice-daily brushing (after breakfast and just before bed) with fluoride toothpaste: **do not rinse but spit**

RANGE OF FLUORIDE TOOTHPASTE*:

- 1,500 ppm fluoride

RANGE OF FLUORIDE TOOTHPASTE*:

- Up to 2,800 ppm fluoride till 16 years old and up to 5,000 ppm fluoride (upon prescription or professional recommendations from 16–18 years old) in case of very high risks

RANGE OF FLUORIDE TOOTHPASTE*:

- Up to 5,000 ppm fluoride (upon prescription or professional recommendations) in case of very high risks

- In case of dry mouth or hyposalivation, sugar-free chewing gum and salivary substitutes

- Fluoride mouthwash, dental floss and interdental brushes, tongue brushing and specific toothbrush

- Denture hygiene
- Soft tissue care
- Chlorhexidine or fluoride rinsing mouthwash at different times

RECALL

2 times a year for children (please also consult European Academy of Paediatric Dentistry guidelines and national guidelines for high-risk children)

ALL PATIENTS: 1 time a year - High risks: 2 times a year to be adapted (please consult national guidelines for high-risk patients*)

DISCLAIMER • Please also consult national guidelines on fluoride • In case of fluorosis risk, it is recommended to use a "smear" (equivalent to 0.1 mg F) of 1000 ppm toothpaste for young children. The fluoride concentrations mentioned in this guideline comply with FDI recommendations