

## Summary Table of References and Background Readings

Authors	Title	Study Type	Results
Ahovuo-Saloranta A, Hiiri A, Nordblad A, Mäkelä M, Worthington HV (2009)	Pit and fissure sealants for preventing dental decay in the permanent teeth of children and adolescents (Review)	Cochrane review	<ul style="list-style-type: none"> <li>• Sealants introduced in the 1960's to prevent occlusal decay</li> <li>• Sealants can be resin-based or glass ionomer cement</li> <li>• Reported that for resin sealants 9 years after placement only 27% of sealed surfaces were decayed versus 77% of control surfaces</li> <li>• Conflicting results mean the superiority of materials was not analyzed (both effective and safe)</li> </ul>
Al-Jundi, Hammad M, Alwaeli (2006)	The efficacy of a school-based caries preventive program: a 4-year study	Longitudinal study	<ul style="list-style-type: none"> <li>• Compared 30 minute oral hygiene instructions and daily toothbrushing with fluoridated toothpaste to oral hygiene instructions alone</li> <li>• Groups randomly allocated with subgroups by age (6 yrs versus 11 yrs)</li> <li>• Annual dental examinations</li> <li>• All caries indices (DMFT/deft) increased but less so in study group</li> <li>• Program more effective among 6 year olds</li> <li>• Control group had higher risk of developing caries (6.4 times versus 3.1 times)</li> <li>• DT/DMFT decreased in the study group</li> <li>• Concerns with teachers level of co-operation</li> </ul>

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American Dental Association Council on Scientific Affairs (2007)	Professionally Applied Topical Fluoride: Evidence-Based Clinical Recommendations	Evidenced-based clinical recommendations	<ul style="list-style-type: none"> <li>• <b>Very good document</b></li> <li>• Provides recommendations for topical fluorides based on caries risk assessment and age</li> <li>• Main findings include varnish is more acceptable and easier to apply in pre-school aged children</li> <li>• Gels/foams should be applied for four minutes (despite manufacturer's advice)</li> <li>• Two or more varnish applications per year is sufficient in high caries children to achieve reductions</li> </ul>
Autio JT, Courts FJ (2001)	Acceptance of the Xylitol chewing gum regimen by preschool children and teachers in a Head Start program: a pilot study	Pilot study	<ul style="list-style-type: none"> <li>• Purpose was to evaluate the acceptance of a xylitol gum chewing program in preschool classes over a three week period</li> <li>• 3-5 year olds chewed gum 3 times per day for 3 weeks</li> <li>• Gum chewing well accepted within children (5 out of the 35 children did not like the taste but tolerated chewing)</li> <li>• Not well accepted by teachers (extra demands on time)</li> <li>• No side effects reported</li> </ul>

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Avery KT, Shapiro S, Biggs JT (1979)	School Water Fluoridation	Literature review	<ul style="list-style-type: none"> <li>• School water fluoridation done when communal water not accessible or non-existent</li> <li>• Can use high levels of fluoride (2.3-6.3ppm) due to limited exposure</li> <li>• Found 38.9% reduction in decay rate (especially for late-erupting teeth)</li> <li>• Found no reports of objectionable fluorosis levels</li> </ul>
Azarpazhooh A, Limeback H (2008)	Clinical Efficacy of Casein Derivatives: A Systematic Review of the Literature	Systematic review	<ul style="list-style-type: none"> <li>• Included randomized and quasi-randomized controlled trials</li> <li>• Concluded that there is “insufficient clinical evidence (in quantity, quality or both) to make a recommendation regarding the long-term effectiveness of casein derivatives”</li> <li>• Noted that a benefit of these products is that they are ingestible (if they do not have fluoride)</li> </ul>
Azarpazhooh A, Main PA (2008)	Fluoride Varnish in the Prevention of Dental Caries in Children and Adolescents: A Systematic Review	Systematic Review and protocol development	<ul style="list-style-type: none"> <li>• Must base varnish application on caries risk assessment</li> <li>• High level evidence for bi-annual application</li> <li>• Insufficient evidence to support multiple applications within short time frames</li> <li>• Complementary programs (sealants, toothbrushing, nutritionally counselling) are effective</li> <li>• Duraphat® and Durafluor® best due to their slow release properties</li> </ul>

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Baez RJ, Marthaler TM, Baez MX, Warpeha RA (2010)	Urinary fluoride levels in Jamaican children in 2008, after 21 years of salt fluoridation	Cross-sectional survey	<ul style="list-style-type: none"> <li>• Salt fluoridation began in Jamaica 1987 (all forms of salt)</li> <li>• Eight years after fluoride introduced the 12-year old DMFT was 1.1 compared to 6.7 in 1984 (most of reduction attributed to salt fluoridation)</li> <li>• Nocturnal and daytime urinary collection done for children in 2 rural and 2 urban communities</li> <li>• Average urinary excretion for urban and rural children was 271 and 330µgF/24h (below optimal F usage range)</li> </ul>
Beauchamp <i>et al</i> (2008)	Evidence-based clinical recommendations for the use of pit-and-fissure sealants	Literature review and clinical recommendations	<ul style="list-style-type: none"> <li>• Stated that sealants are underused particularly in high risk populations</li> <li>• GIC sealants contain fluoride, are easier to use and are not as moisture sensitive</li> <li>• Placement of sealants in permanent molars (any age group) are effective for caries reduction</li> <li>• Caries reductions of 86% at one year seen with resin based fissure sealants</li> <li>• Primary molars retain sealants also (74-96%) after one year</li> <li>• Recommend placement on non-cavitated lesions (all age groups)</li> <li>• Mechanical preparation of the tooth not required for application</li> <li>• 4-handed technique recommended with resin based materials</li> </ul>

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			<ul style="list-style-type: none"> <li>• Must be coupled with risk assessment tools</li> <li>• Explorers not required for early lesion detection</li> </ul>
Beltrán-Aguilar ED, Goldstein JW (2000)	Fluoride Varnishes. A Review of Their Clinical Use, Cariostatic Mechanism, Efficacy and Safety	Literature review	<ul style="list-style-type: none"> <li>• Recommended 6-monthly applications</li> <li>• Reported that varnish suitable for young children (over use of gels)</li> <li>• Reported that plasma levels of fluoride were highest 2 hours after application and the levels were similar to those associated with using fluoridated toothpaste and tablet ingestion</li> <li>• Plasma levels lower than if ingested gel</li> <li>• Highest quality evidence supports the use of varnish</li> <li>• Varnish better tolerated by young children</li> </ul>
Blinkhorn AS, Wight C (1987)	An assessment of two dental health education programmes for Scottish secondary school children	Prospective study	<ul style="list-style-type: none"> <li>• Compared a mobile surgery based preventive program (administered by a hygienist) to a school based preventive program (administered by a teacher) and to a control group</li> <li>• A blinded dental examiner performed the baseline and yearly evaluations</li> <li>• Children in the hygienist led programme had 20% less caries</li> <li>• Children in both programs experienced less gingival inflammation compared to the control</li> </ul>

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			<ul style="list-style-type: none"> <li>• Knowledge of fluoride and the limiting of sugary snacks was only slightly higher in both program groups</li> </ul>
Bravo M, Montero J, Bravo JJ, Baca P, Llodra JC (2005)	Sealant and Fluoride Varnish in Caries: a Randomized Trial	RCT (randomized control trial)	<ul style="list-style-type: none"> <li>• Looked at caries incidence after the discontinuation sealants and varnish for 4-years</li> <li>• Only included molars that were fully erupted, sound and present at baseline, the 4-year and 9-year follow-up</li> <li>• Found that 26.6% of the sealed molars developed caries versus the 55.8% of molars that received varnish (76.7% of control molars developed caries)</li> <li>• 38.9% of sealants were completely retained at the 9-year follow-up</li> <li>• Preventive effects remain for sealants after program discontinuation</li> </ul>
Burt BA (2006)	The use of sorbitol- and Xylitol-sweetened chewing gum in caries control	Literature review	<ul style="list-style-type: none"> <li>• Advocated the use of sorbitol and Xylitol containing gum within sweetened chewing gums</li> <li>• Noted that can be part of caries control system</li> <li>• Recommended chewing 3-5 times per day for 5 minutes</li> <li>• Large amount of polyols sugars (7-14g/d) causes stomach problems (acts as a laxative)</li> </ul>
Calderone JJ (chairman) (1984)	Community and school water fluoridation: summary and recommendations.	Expert Opinion	<ul style="list-style-type: none"> <li>• State that school water fluoridation is not a satisfactory equivalent to CWF and only to be considered for communities without communal water supplies</li> </ul>

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Curnow MMT, Pine CM, Burnside G, Nicholson JA, Chesters RK (2002)	A randomized controlled trial of the efficacy of supervised toothbrushing in high-caries-risk-children	RCT	<ul style="list-style-type: none"> <li>• Establishing regular toothbrushing with fluoridated toothpaste into the routine of high-risk children has the potential to reduce inequalities in dental health</li> <li>• Intervention group brushed with 1000 ppm toothpaste daily</li> <li>• Supervisors were local mothers connected to school either on a voluntary or paid basis</li> <li>• All participants were examined at 6-monthly intervals</li> <li>• Examinations done to the D<sub>1</sub> caries threshold (all visible cavitated and non-cavitated lesions in enamel and dentine)</li> <li>• Majority of participants from the two most deprived neighbourhoods</li> <li>• Significantly less caries developed in the first permanent molars of the intervention group</li> <li>• Intervention group had 32% fewer D<sub>1</sub> lesions and 56% fewer D<sub>3</sub> lesions than the control group</li> </ul>
Davies GM <i>et al</i> (2002)	A randomised controlled trial of the effectiveness of providing free fluoride toothpaste from the age of 12 months on reducing caries in 5-6-year old children	RCT	<ul style="list-style-type: none"> <li>• Randomized controlled parallel group clinical trial</li> <li>• Participants received free toothpaste every 12 weeks, a new toothbrush yearly and pamphlets encouraging twice daily brushing and the use of a pea-sized amount of toothpaste from 12 months to 5 1/2 years of age</li> </ul>

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			<ul style="list-style-type: none"> <li>• Children either received 450ppm, 1450ppm fluoridated toothpaste</li> <li>• Children examined when 5-6-years old</li> <li>• mean dmft in 1450ppm group was 2.15; 2.49 in the 450ppm group and 2.57 in the control group</li> <li>• 16% decrease between 1450ppm group and the control group (statistically significant)</li> </ul>
de Silva-Sanigorski AM, Calache H, Gussy M, Dashper, S, Gibson J, Waters E (2010)	The VicGeneration study – a birth cohort to examine the environmental, behavioural and biological predictors of early childhood caries: background, aims and methods	Study protocol	<ul style="list-style-type: none"> <li>• Longitudinal multi-disciplinary design</li> <li>• Aim to describe the natural history of ECC, determine the oral bacterial species and abundance in saliva of infants and their caregivers, determine the strength of the associations between ECC and putative and protective risk factors, quantify longitudinal relationships between factors and the development and progression of ECC</li> <li>• Looking at high risk sample</li> </ul>
Disney JA, Graves RC, Stamm JW, Bohannon HW, Abernathy JR (1989)	Comparative effects of a 4-year fluoride mouthrinse program on high and low caries forming grade 1 children	Secondary analysis of data from the National Preventive Dentistry Demonstration Program (NPDDP)	<ul style="list-style-type: none"> <li>• Looked at the comparative effectiveness of fluoride mouthrinses on high and low caries forming children</li> <li>• Caries reductions higher among high caries forming children</li> <li>• Saved .79 surfaces in high caries forming compared to .29 surfaces in low caries forming children</li> </ul>

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Authors	Title	Study Type	Results
			<ul style="list-style-type: none"> <li>• Fluoride mouthrinses cannot be recommended in fluoridated communities as being effective for preventing decay</li> <li>• Children received fluoride tablets concurrently (<b>confounding</b>)</li> <li>• Recommended sealant and antimicrobial use for high caries children</li> </ul>
Featherstone JDB (2000)	The Science and Practice of Caries Prevention	Literature review	<ul style="list-style-type: none"> <li>• Talk about caries risk assessment</li> <li>• Role of fluoride in caries prevention</li> <li>• Innovative methods of caries detection/prevention (caries immunization, molecular probes, fluorescence use etc.)</li> </ul>
Fit For School Inc. (Bella Monse) ( <a href="http://www.fitforschool.ph">www.fitforschool.ph</a> )	Fit For School Initiative	Program	<ul style="list-style-type: none"> <li>• School-based programs run in the Philippines</li> <li>• Involves handwashing, toothbrushing, deworming</li> <li>• Well recognized program that has won various awards</li> <li>• Programs website shows how to plan, implement and build capacity for these programs</li> <li>• Unpublished data (B.Monse) has shown a 40% reduction in dental caries and a 60% reduction in caries progression into the pulp</li> </ul>
Fort Collins Fluoride Technical Study Group (2003)	The Effectiveness of Drinking Water Fluoridation in Preventing Caries	Literature review	<ul style="list-style-type: none"> <li>• Panel to report on CWF for city vote</li> <li>• Found that CWF resulted in 25% caries reduction</li> </ul>

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Gillespie G, Marinho VCC, Marthaler TM, Holt R, Poulsen S, Stephen K, Baez R (2009)	Salt fluoridation for preventing dental caries (Protocol)	Cochrane protocol	<ul style="list-style-type: none"> <li>• Protocol for upcoming systematic review</li> <li>• Salt fluoridated to 250ppm or 250mg/kg</li> <li>• Salt consumption from the table and kitchen is 1-4g of a person's daily intake</li> <li>• In intake 4g domestic salt a day this would equate to 1mg fluoride (optimal dose)</li> <li>• Do not recommend increased salt intake (it is a vehicle for the fluoride only)</li> </ul>
Goldsmith LJ, Hutchison B, Hurley J (2004)	Economic Evaluation Across the Four Faces of Prevention: A Canadian Perspective	Economic evaluation	<ul style="list-style-type: none"> <li>• Note that prevention and illness care are not in competition with each other but rather serve different objectives and fulfill different needs</li> <li>• Prevention is associated with immediate costs and delayed benefits</li> <li>• Prevention programs produce a net benefit to society</li> <li>• CWF is cost-saving from both the payer perspective and the societal perspective</li> <li>• CWF reduces caries rate by 25%</li> <li>• Authors agree that CWF is a cost-saving intervention</li> </ul>
Gooch BF <i>et al</i> (2009)	Preventing Dental Caries Through School-Based Sealant Programs: Updated Recommendations and Reviews of Evidence	Systematic review	<ul style="list-style-type: none"> <li>• 20% of 6-11 year olds from low income families receive sealants (40% in higher income families receive sealants)</li> <li>• Only discussed unfilled resin sealants</li> <li>• Recommend placement on both sound and non-cavitated surfaces</li> </ul>

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			<ul style="list-style-type: none"> <li>• Place even if follow-up uncertain</li> <li>• Four-handed application increased retention by 9%</li> <li>• Radiographs not needed to assess need for sealant (visual assessment adequate)</li> <li>• Surface preparation not required</li> </ul>
Hawkins R, Locker D, Noble J (2003)	Prevention Part 7: Professionally applied topical fluorides for caries prevention	Literature review	<ul style="list-style-type: none"> <li>• Caries decline lowest for occlusal decay (compared to other surfaces)</li> <li>• Stated that professionally applied fluoride should be determined by individual caries risk</li> <li>• Smooth surface caries best managed with topical fluoride (not pit and fissure)</li> <li>• Low caries risk children within optimally fluoridated communities unlikely to benefit from topical fluoride with respect to cost-effectiveness)</li> <li>• 6-monthly applications of varnish recommended</li> <li>• All gels applied for 4 minutes (despite manufacturer's instructions)</li> <li>• Pre-application prophylaxis not required</li> <li>• Must minimize ingestion to prevent side effects</li> </ul>

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Hawkins RJ, Locker D (2000)	Evidence-Based Recommendations for the use of Professionally Applied Topical Fluorides in Ontario's Public Health Dental Programs	Literature review	<ul style="list-style-type: none"> <li>• Updates previous report</li> <li>• Fluoride gel is the intervention of choice <b>except</b> for in young children, compromised patients and those who gag</li> <li>• In terms of time savings varnish is a better choice</li> <li>• Provides protocol for application of gel</li> </ul>
Health Canada (2010)	Guidelines for Canadian Drinking Water Quality: Guideline Technical Document-Fluoride	Guidelines/Expert Opinion	<ul style="list-style-type: none"> <li>• The Maximum Acceptable Concentration (MAC) for fluoride in drinking water is 1.5 mg/L</li> <li>• The MAC was based on the population group most at risk of developing dental fluorosis (children 1 to 4 years old)</li> <li>• Optimally fluoridated water for dental health is 0.7 mg/L (this levels provides dental benefits while protecting against adverse effects)</li> <li>• Low levels of naturally occurring fluoride exist in Canadian drinking water sources</li> <li>• Health Canada completed a review of the health risks associated with fluoride and thus determined the MAC</li> <li>• Evidence has <b>not</b> supported a link between the MAC of 1.5 mg/L and any adverse health effects</li> </ul>

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Hiiri A, Ahovuo-Saloranta A, Nordblad A, Mäkelä M (2010)	Pit and fissure sealants versus fluoride varnish for preventing dental decay in children and adolescents (Review)	Cochrane review	<ul style="list-style-type: none"> <li>• Studies included had varying designed such that no meta-analyses were done</li> <li>• Scarce evidence supports the superiority of sealants over varnish in the prevention of occlusal decay</li> </ul>
Horowitz HS, Law FE, Pritzker T (1965)	Effect of School Water Fluoridation on Dental Caries, St. Thomas, V.I.	Cohort study	<ul style="list-style-type: none"> <li>• Looked at non-fluoridated and fluoridated schools</li> <li>• School fluoridation at 2.34ppm (average over 8 years)</li> <li>• Showed decreases in caries</li> <li>• Lacks internal invalidity</li> </ul>
Jayarajan J, Janardhanam P, Jayakumar P, Deepika (2011)	Efficacy of CPP-ACP and CPP-ACPF on enamel remineralization – An <i>in vitro</i> study using scanning electron microscope and DIAGNOdent®	Clinical trial	<ul style="list-style-type: none"> <li>• Used orthodontically extracted premolars (sliced mesiodistally and only buccal half used)</li> <li>• Created 4x4mm window using acid resistant nail varnish</li> <li>• Used type B probe with the DIAGNOdent® (for smooth surface caries) and only kept samples with scores between 3 and 7</li> <li>• Teeth exposed to demineralising solution for 5 hours and retested with the DIAGNOdent® (scores above 9)</li> <li>• Remineralisation highest in teeth exposed to CPP-ACPF then the CPP-ACP group</li> <li>• Authors concluded that CPP-ACP and CPP-ACPF were excellent delivery vehicles to localize calcium, phosphate and fluoride at tooth surface</li> </ul>

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Jones S, Burt BA, Petersen PE, Lennon MA (2005)	The effective use of fluorides in public health	Literature/historical review and case studies	<ul style="list-style-type: none"> <li>• Chronicles the development of water, salt, and milk fluoridation and the development of an affordable fluoridated toothpaste</li> <li>• Recommends everyone brush twice daily with fluoridated toothpaste</li> <li>• Discusses background of above fluoride vehicles</li> <li>• Recommends that in communities with moderate to high caries that an additional fluoride source (water, salt, milk) be considered</li> <li>• Limitation of toothpaste is that it is behaviour dependent</li> </ul>
Joost Larsen M, Kirkegård E, Fejerskov O, Poulsen S (1985)	Prevalence of dental Fluorosis after fluoride-gel Treatments in a Low-fluoride Area	Clinical trial	<ul style="list-style-type: none"> <li>• Looked at the prevalence of dental fluorosis in children receiving fluoride gel applications two or more times per year since the age of six</li> <li>• Thylstrup and Fejerskov dental fluorosis system used</li> <li>• 6-monthly gel applications (started at 6-year old) does not result in increased prevalence of dental fluorosis in canines, premolars, and second molars</li> </ul>
Kandelman D, Gagnon G (1990)	A 24-month Clinical Study of the Incidence and Progression of Dental Caries in Relation to Consumption of Chewing Gum Containing Xylitol in School Preventive Programs	Prospective cohort	<ul style="list-style-type: none"> <li>• Looked at Montreal children with low socioeconomic status</li> <li>• Allocated by school</li> <li>• Interventions were either gum with 65% Xylitol, 15% Xylitol and 50% sorbitol, no gum control</li> </ul>

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			<ul style="list-style-type: none"> <li>• Chewed 3 times per day for 5 minutes</li> <li>• All children received NaF rinsing at school</li> <li>• 62% reduction in caries increment</li> <li>• Taste was acceptable to all participants (8-9 year old children)</li> </ul>
Klein SP <i>et al</i> (1985)	The cost and effectiveness of School-based preventive dental care	Longitudinal study	<ul style="list-style-type: none"> <li>• Looked at 20,052 first, second and fifth graders</li> <li>• 6 cohorts all received different school based preventive programs</li> <li>• Sealants were the only preventive procedure that consistently reduced dental decay (prevented 23-65% of decay within control group)</li> <li>• Authors estimate that the “direct cost for a school-based program is about \$40 to \$80 per surface saved from decay”</li> </ul>
Lawrence HP <i>et al</i> (2008)	A 2-year community-randomized controlled trial of fluoride varnish to prevent early childhood caries in Aboriginal children	Cluster RCT	<ul style="list-style-type: none"> <li>• In Sioux Lookout Zone (SLZ)</li> <li>• Compared fluoride varnish with caregiver counselling to counselling alone for the prevention of early childhood caries (ECC)</li> <li>• 87.1% of children received 4 varnish applications per year</li> <li>• Only 1 adverse reaction noted (to lanolin)</li> <li>• 18.3% caries reduction in ECC levels among First Nations children</li> <li>• 24.5% caries reduction if non-Aboriginal children included</li> </ul>

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Locker D (1999)	Benefits and Risks of Water Fluoridation: An Update of the 1996 Federal-Provincial Subcommittee Report	Literature review	<ul style="list-style-type: none"> <li>• Update of earlier document</li> <li>• CWF's pre-eruptive affect is minor and there is stronger evidence for the post-eruptive effect</li> <li>• Caries reduction is maximized among lower socioeconomic groups</li> <li>• The maximum allowable concentration (MAC) for Canadian drinking water is 1.5mg/L</li> </ul>
Locker D, Jokovic A (2003)	Prevention Part 8: The use of pit and fissure sealants in preventing caries in the permanent dentition of children	Literature review	<ul style="list-style-type: none"> <li>• Highest rate of sealant loss is within the first year after application</li> <li>• Pit and fissure decay can start in adolescence but lasts into adulthood</li> <li>• Isolation required for the application of resin-based sealants</li> <li>• First and second molars should be sealed</li> <li>• Does not recommend the use of GIC sealants</li> </ul>
Mäkinen KK (2010)	Sugar Alcohols, Caries Incidence, and Remineralization of Caries Lesions: A Literature Review	Literature review	<ul style="list-style-type: none"> <li>• Technical paper dealing with sugar breakdown and its modes of action (with respect to caries)</li> </ul>
Marinho VCC, Higgins JPT, Logan S, Sheiham A (2009)	Fluoride gels for preventing dental caries in children and adolescents (Review)	Cochrane review	<ul style="list-style-type: none"> <li>• Looked at over 4400 children (from all trials)</li> <li>• The pooled prevented fraction ( from 14 placebo trials) is 21%</li> <li>• Low caries communities (caries increment of .042) need to treat 24 children to prevent one D(M)FS</li> <li>• High caries communities (caries increment of 2.2 D(M)FS) need to treat 2 children to prevent one D(M)FS</li> </ul>

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			<ul style="list-style-type: none"> <li>• Greater treatment effect with increased frequency and concentration of gel application</li> <li>• Found minimal information about side effects but noted the probable toxic dose of 100mg of fluoride for a 20kg child (5-6yr old) is contained in 8ml of gel and a typical tray contains 5ml of gel</li> </ul>
Marinho VCC, Higgins JPT, Logan S, Sheiham A (2009)	Fluoride mouthrinses for preventing dental caries in children and adolescents (Review)	Cochrane review	<ul style="list-style-type: none"> <li>• Looked at over 14,600 children in various studies that rinsed either daily/weekly/fortnightly with either 230ppm or 900ppm NaF mouthrinse</li> <li>• Reported an average of 26% reduction in D(M)FS</li> <li>• Authors also found a greater treatment effect with an increased intensity (concentration times frequency)of the program</li> <li>• In high caries communities (caries increment of 2.14 D(M)FS per year) you would have to treat 1.8 children to prevent one new cavity</li> </ul>
Marinho VCC, Higgins JPT, Logan S, Sheiham A (2009)	Fluoride toothpastes for preventing dental caries in children and adolescents (Review)	Cochrane review	<ul style="list-style-type: none"> <li>• Toothpaste typically contains 1000-1100ppm fluoride but can be higher or lower in some countries</li> <li>• For a tube of 1100ppm toothpaste the probable toxic dose (PTD) is 2/3 the tube for a 5-6-year old (20kg) and 1-3 of the tube for a 1-year old (10kg)</li> </ul>

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			<ul style="list-style-type: none"> <li>• Looked at over 42,300 children aged 16 or less in 70 trials</li> <li>• Prevented fraction of 24% reported</li> <li>• A single study commented on deciduous teeth (37% reduction in caries increment)</li> <li>• No useful information on the development of fluorosis</li> <li>• Fluoridated toothpaste associated with clear caries increment reductions</li> </ul>
<p>Marinho VCC, Higgins JPT, Logan S, Sheiham A (2009)</p>	<p>Topical fluoride (toothpastes, mouthrinses, gels or varnishes) for preventing dental caries in children and adolescents (Review)</p>	<p>Cochrane review</p>	<ul style="list-style-type: none"> <li>• Looked at various forms of topical fluoride (toothpaste, gel, varnish and mouthrinses)</li> <li>• Topical fluoride use results in a pooled 26% reduction in D(M)FS</li> <li>• Reported 33% reduction in pooled d(m/e)fs</li> <li>• Two thirds of the 65,000 children used toothpaste as their topical fluoride (followed by mouthrinse, gel then varnish)</li> <li>• Reported that there is evidence of a 14% greater caries inhibiting effect with the use of varnish compared to other topical fluorides</li> </ul>

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Authors	Title	Study Type	Results
Marinho VCC, Higgins JPT, Logan S, Sheiham A (2009)	Fluoride varnishes for preventing dental caries in children and adolescents (Review)	Cochrane review	<ul style="list-style-type: none"> <li>• Use of fluoride varnish considered appropriate for at risk teeth in a community based preventive program</li> <li>• Safe for young children as amount applied is approximately 0.5ml and contains 3-11mg of fluoride (well below PTD of 5mg/kg body weight)</li> <li>• Looked at studies with varnish compared to placebo/no treatment during 1 school year (at least)</li> <li>• All studies had 2709 children (age range of 3-15 yrs at start)</li> <li>• 46% reduction in D(M)FS</li> <li>• 33% reduction in d(m)fs</li> <li>• For a community with a caries increment of 1.6 D(M)FS per year the NNT is 1.4</li> <li>• Applications of 2-4 times per year are effective</li> <li>• No information on adverse effects reported</li> </ul>
Marinho VCC, Higgins JPT, Sheiham A, Logan S (2009)	Combinations of topical fluoride (toothpastes, mouthrinses, gels, varnishes) versus single topical fluoride for preventing dental caries in children and adolescents (Review).	Cochrane review	<ul style="list-style-type: none"> <li>• To determine if there was a benefit to adding topical fluoride therapy to toothpaste use</li> <li>• Review found that when compared to fluoridated toothpaste additional fluoride therapies conferred a further reduction of 10% (average)</li> <li>• Varnish and toothpaste resulted in an additional 15% caries reduction</li> <li>• No information on adverse effects</li> </ul>

## Summary Table of References and Background Readings

Authors	Title	Study Type	Results
Marinho VV, Higgins JPT, Sheiham, A Logan S (2009)	One topical fluoride (toothpastes, or mouthrinses, or gels or varnishes) versus another for preventing dental caries in children and adolescents (Review)	Cochrane review	<ul style="list-style-type: none"> <li>• Looked at various studies comparing topical fluoride therapies to each other</li> <li>• <b>Authors unable to detect difference in caries reduction between varnish and gel; gel and mouthrinses</b></li> <li>• Reported a non-significant effect in favour of varnish over mouthrinses</li> <li>• Reported no difference between varnish and toothpaste; toothpaste and gel; toothpaste and mouthrinses; toothpaste and any other topical fluoride therapy</li> <li>• Topical fluorides (toothpastes, mouthrinses, varnishes, gels) are effective in preventing caries</li> </ul>
Marthaler TM, Petersen PE (2005)	Salt fluoridation – an alternative in automatic prevention of dental caries	Literature review	<ul style="list-style-type: none"> <li>• Alternative to CWF</li> <li>• Studies began in 1960's (Switzerland, Hungary, Colombia)</li> <li>• Developing countries slow to introduce preventive programs due to transition of nutrition and the adoption of modern lifestyles</li> <li>• Caries prevalence increases in these countries</li> <li>• Discussed practical aspects to the implementation of a salt fluoridation scheme</li> </ul>
Mickenautsch S, Yengopal V (2011)	Caries-preventive effect of glass ionomer and resin-based fissure sealants on permanent teeth: An update of systematic review evidence	Systematic review	<ul style="list-style-type: none"> <li>• Update to the article above</li> <li>• Included 7 new articles</li> <li>• No change in original findings</li> </ul>

## Summary Table of References and Background Readings

Authors	Title	Study Type	Results
Milgrom P, Ly KA, Tut OK, Mancl L, Roberts M, Briand K, Gancio MJ (2009)	Xylitol pediatric topical oral syrup to prevent dental caries: a double blind, randomized clinical trial of efficacy	RCT	<ul style="list-style-type: none"> <li>• Compared the administering of 8g per day of Xylitol syrup in either 2 or 3 doses for caries prevention</li> <li>• Locally hired and trained outreach workers delivered the syrup</li> <li>• Log kept by parents regarding administration and unused doses returned to the workers</li> <li>• Authors found that up to 70% of ECC can be prevented with the use of Xylitol in children 15-25 months of age</li> <li>• No difference between two or three daily doses</li> <li>• Side effects (diarrhoea) similar between control and intervention groups (10% in 'run-in' period; 8.7% in 'wash-out' period and both lower than the 18.5% seen in the observation period)</li> </ul>
Milgrom P, Tut OK (2009)	Evaluation of Pacific Islands early Childhood Caries Prevention Project: Republic of the Marshall Islands	Program evaluation	<ul style="list-style-type: none"> <li>• Evaluated a <i>Head Start</i> sponsored community program to reduce decay in young children</li> <li>• Program had 3 interventions (varnish applied 3 times per school year with toothbrush fluoridated toothpaste being sent home every 3 months; varnish plus twice daily supervised toothbrushing program at school; above plus 3 times per day consumption of Xylitol gummy snacks)</li> </ul>

## Summary Table of References and Background Readings

Authors	Title	Study Type	Results
			<ul style="list-style-type: none"> <li>• Community had no fluoridated water or private dentists (only hospital public dental clinic)</li> <li>• Could not evaluate additive effect of Xylitol as sample too small</li> <li>• Found that varnish alone insufficient to prevent decay</li> <li>• School toothbrushing program required</li> <li>• 12.8% of the children within the more intense intervention groups (not varnish alone) had carious first molars compared to 24% within the varnish only group (clinically significant)</li> </ul>
Morgan MV, Campain AC, Crowley SJ, Wright FAC (1997)	An evaluation of a primary preventive dental programme in non-fluoridated areas of Victoria, Australia	Program evaluation	<ul style="list-style-type: none"> <li>• Looked at acceptability of a 3-year school based preventive program</li> <li>• Compared sealant placement and weekly fluoride rinses compared to oral hygiene instruction</li> <li>• Light-cured sealants placed by independent dentist at school using portable equipment</li> <li>• Sealant component well accepted</li> <li>• Rinsing program hindered by lack of willingness to provide time for the program</li> <li>• Reported needing an interested school staff member to help co-ordinate rinsing sessions and strong lines of communication between school and health centre to ensure success of rinsing programs</li> </ul>

## Summary Table of References and Background Readings

Authors	Title	Study Type	Results
			<ul style="list-style-type: none"> <li>• Program saved 1.4 surfaces (equivalent to a 60% caries reduction) and was largely associated with sealant application</li> </ul>
Neko-Uwagawa Y, Yoshihara A, Miyazake H (2011)	Long-term Caries Preventive Effects of a School-Based Fluoride Mouth Rinse Program in Adulthood	Retrospective (quasi-randomized)	<ul style="list-style-type: none"> <li>• Compared young mothers by age and exposure to school rinsing programs</li> <li>• Found that those who received school rinses from nursery school to junior high had lower prevalence of decay</li> <li>• No socioeconomic data available on subjects, background fluoride exposure, access to care (<b>bias</b>)</li> </ul>
Neumann AS <i>et al</i> (2011)	Impact of an oral health intervention on pre-school children <3years of age in a rural setting in Australia	Cohort study/Longitudinal	<ul style="list-style-type: none"> <li>• Looked at the influence of an 'oral health starter kit' and caregiver education on the prevalence of ECC within a rural setting</li> <li>• Rural defined as a population of 10,000-15,000 people</li> <li>• Kit and education delivered by the maternal and child health nurses (trained)</li> <li>• Found that program may be effective in preventing ECC in very young children</li> <li>• No difference between control and intervention by third exam due to lack of intensity of intervention</li> <li>• Showed that potential existed within non-dental personnel to deliver preventive programs to very young children</li> </ul>

## Summary Table of References and Background Readings

Authors	Title	Study Type	Results
Newbrun E (2001)	Topical Fluorides in Caries Prevention and Management: A North American Perspective	Literature review	<ul style="list-style-type: none"> <li>• Mentions that not all topical fluorides are created equal</li> <li>• Efficacy determined by frequency, concentration and compound involved</li> <li>• Discusses that topical fluoride selection should be determined by patient's caries risk</li> <li>• Suggests protocols based on risk</li> </ul>
Olley RC, Hosey MT Renton T, Gallagher J (2011)	Why are children still having preventable extractions under general anaesthetic? A service evaluation of the views of parents of a high caries risk group of children	Program/Service evaluation	<ul style="list-style-type: none"> <li>• Evaluated care received under GA and obtained the views of parents and what they would like in a dental service</li> <li>• Interview questionnaire (open and closed ended questions)</li> <li>• 47% of parents reported previous GA treatment for the same child or a sibling</li> <li>• 40% of parents reported only seeing a dentist when in pain</li> <li>• 72% reported receiving advice about avoiding sugar but nothing about the use of fluoride</li> <li>• 28% of children are involved with a school toothbrushing program</li> <li>• Parents reported sweets, lack of toothbrushing and little oral health awareness as causing the decay</li> <li>• 61% of parents have no plans to see a dentist after the GA treatment is completed</li> </ul>

## Summary Table of References and Background Readings

Authors	Title	Study Type	Results
			<ul style="list-style-type: none"> <li>• 78% of parents requested support for school toothbrushing programs or a pre-operative education program</li> <li>• 71% of parents wanted advice to come from a health professional and that the advice be directed toward the child</li> <li>• 16% of parents reported trouble in accessing care (cannot find a dentist or child too anxious)</li> </ul>
Petersen PE, Lennon MA (2004)	Effective use of fluorides for the prevention of dental caries in the 21 <sup>st</sup> century: the WHO approach	Expert Opinion	<ul style="list-style-type: none"> <li>• Underprivileged groups at higher risk for decay in both developed and developing communities</li> <li>• Oral and general health common risk factors related to diet, tobacco use and alcohol consumption</li> <li>• Collaborative action towards reducing the impact of sugar consumption and emphasizing fluoride use can help control decay</li> <li>• Recommend advocating for low sugar diet, use of fluoride, encourage research</li> </ul>
Pine CM, Curnow MMT, Burnside G, Nicholson JA, Roberts AJ (2007)	Caries prevalence four years after the end of a randomised controlled trial	Follow-up of previous RCT	<ul style="list-style-type: none"> <li>• Followed-up children from above trial</li> <li>• Reported 39% reduction at the D<sub>3</sub> level (comparing baseline to 84-month follow-up)</li> <li>• 33% reduction in prevalence at the D<sub>1</sub> level (comparing baseline to 84-month follow-up)</li> </ul>

## Summary Table of References and Background Readings

Authors	Title	Study Type	Results
			<ul style="list-style-type: none"> <li>• Children who were originally allocated to the intervention group developed fewer carious lesions even after the cessation of the program</li> <li>• Result due to either behavioural change (developed habit of toothbrushing) or increased resistance of first molars to caries</li> </ul>
Poulsen S (2009)	Fluoride-containing gels, mouth rinses and varnishes: An update of evidence of efficacy	Literature review	<ul style="list-style-type: none"> <li>• Aim was to update knowledge from systematic reviews</li> <li>• Reported prevented fractions of gels ranged between 18-41%</li> <li>• Prevented fraction for mouthrinses was 30-59% and for varnishes it was 34-57%</li> <li>• Limited evidence on deciduous dentition</li> </ul>
Rebich T (1985)	School-based preventive dental care: A different view	Response to above study	<ul style="list-style-type: none"> <li>• Author criticised the treatment protocol as unrealistic within a public program (specifically 3-monthly follow-up and reapplication of sealants)</li> <li>• States that initial study not designed to “allow conclusions to be drawn about the cost of preventive dental public health programs, nor was it designed to test the effectiveness of preventive measures as employed in the usual dental public health programs”</li> </ul>

## Summary Table of References and Background Readings

Authors	Title	Study Type	Results
Reynolds EC (1987)	The Prevention of Sub-surface Demineralization of Bovine Enamel and Change in Plaque Composition by Casein in an Intra-oral Model	Clinical trial	<ul style="list-style-type: none"> <li>• Slabs of enamel taken from a bovine incisor and placed within buccal acrylic flanges of a modified Crozat orthodontic appliance</li> <li>• Subject (18-23yrs) wore appliances for ten day</li> <li>• Three days prior to the trial commencing the subject did not partake in any oral hygiene</li> <li>• Twenty minutes each day and during meals the appliances were kept in solutions as per the treatment protocol</li> <li>• Authors reported that “sodium caseinate at 2% w/v in a 3% sucrose-3% glucose solution prevented sub-surface enamel demineralization”</li> <li>• Very complex study and the author is part of the group which patented the CPP-ACP complex</li> <li>• Trial completed on cows (bovine teeth)</li> </ul>
Riedy C (2010)	A dental intervention with an Alaskan Native population: lessons learned	Program evaluation	<ul style="list-style-type: none"> <li>• Alaskan Natives have high decay rates at all ages and high levels of systemic diseases which affects dental care</li> <li>• Alaskan Native children 5 times more likely to have dental disease</li> <li>• Evaluated a previously conducted community-based double-blind randomised placebo control trial</li> <li>• Original study looked at expectant mothers and the use of chlorhexidine rinse and Xylitol gum</li> </ul>

Summary Table of References and Background Readings

Authors	Title	Study Type	Results
			<ul style="list-style-type: none"> <li>• Anticipated challenges were inherent distrust; geography and lifestyle; vulnerable subject populations</li> <li>• Unanticipated challenges were that dental care not perceived as a benefit, recruiting when mothers away from family and community goes against decision making process, gum chewing during pregnancy not culturally accepted, costs</li> <li>• Authors report that integral to future success is the collaboration of the communities (<b>community-based participatory research</b>)</li> </ul>
Riley JC, Lennon MA, Ellwood RP (1999)	The effect of water fluoridation and social inequalities on dental caries in 5-year-old children	Ecological descriptive study (cross-sectional)	<ul style="list-style-type: none"> <li>• Aims to describe the association between material deprivation and dental caries experience in 5-year-old children in fluoridated and non-fluoridated communities</li> <li>• Authors suggest that geographical inequalities are “significantly reduced” with water fluoridation</li> <li>• Deprived wards benefited the most from community water fluoridation (study uncertain if this holds at the individual level)</li> <li>• 50% caries reductions across all wards studied</li> <li>• Water fluoridation reduces health inequalities by reducing absolute differences in caries levels</li> </ul>

## Summary Table of References and Background Readings

Authors	Title	Study Type	Results
			<ul style="list-style-type: none"> <li>• Passive mode of delivery (doesn't rely on individual compliance) is thought to be beneficial</li> </ul>
Roberts-Thomson KF <i>et al</i> (2010)	A comprehensive approach to health promotion for the reduction of dental caries in remote Indigenous Australian children: a cluster randomised controlled trial	Cluster RCT	<ul style="list-style-type: none"> <li>• Evaluated the effect of community-oriented primary health care interventions on oral health behaviours</li> <li>• Intervention consisted of 6-monthly varnish application, oral health advice/education, community health promotion on oral health, training primary healthcare staff in oral assessment, varnish application and risk factors</li> <li>• Control received none of the above</li> <li>• Looked at uptake of oral health behaviours (very little)</li> </ul>
Rozier RG (2001)	Effectiveness of Methods used by Dental Professionals for the Primary Prevention of Dental Caries: A Review of the Evidence	Literature review	<ul style="list-style-type: none"> <li>• Reviewed previous systematic reviews</li> <li>• Reports 1% chlorhexidine gel has an unweighted prevented fraction of 46%</li> <li>• Mentions that oral health counselling can increase individual knowledge but the causal relationship to behaviour modification is weak</li> </ul>
Schwarz E, Lo ECM, Wong MCM (1998)	Prevention of Early Childhood Caries-Results of a Fluoride Toothpastes Demonstration Trial on Chinese Preschool Children after Three Years	Field demonstration trial	<ul style="list-style-type: none"> <li>• 3 yr study looking at children brushing with 1000ppm toothpaste and OHI versus control group</li> <li>• No fluoridated toothpaste available prior to study and 0.1ppm in water naturally</li> </ul>

## Summary Table of References and Background Readings

Authors	Title	Study Type	Results
			<ul style="list-style-type: none"> <li>• Baseline and yearly examinations (showed that slowed the progression of decay and did not stop the caries increment)</li> <li>• Used non dental personnel</li> </ul>
Seth S (2011)	Glass ionomer cement and resin-based fissure sealants are equally effective in caries prevention	Summary of a systematic review	<ul style="list-style-type: none"> <li>• No difference in the prevention of caries between resin and GIC sealants</li> <li>• Looked at permanent dentition only</li> <li>• Quality of evidence is limited (new materials)</li> </ul>
Silk Hugh (2009)	Teaching Learners About Pediatric Caries Prevention	Expert Opinion	<ul style="list-style-type: none"> <li>• Discusses the opportunity of medical practitioners to be involved in oral health education</li> <li>• Notes that medical doctors see children 12 times in the first 3 years of life (U.S.)</li> <li>• Oral health education for children should be focused on caries risk history, brushing, fluoride, diet, oral physical exam and dental referrals</li> <li>• Discusses the use to learning modules that can be used on handheld devices are beneficial</li> </ul>
Slade GD <i>et al</i> (2011)	Effect of health promotion and fluoride varnish on dental caries among Australian Aboriginal children: results from a community-randomized controlled trial	Cluster RCT	<ul style="list-style-type: none"> <li>• All participants examined at enrolment and 2 years later</li> <li>• Intervention group received 6-monthly duraphat application, advice to parents at time of application and again at play group settings, community health promotion activities</li> </ul>

Summary Table of References and Background Readings

Authors	Title	Study Type	Results
			<ul style="list-style-type: none"> <li>• All primary health care workers were given the same oral health messages and were trained to recognize oral disease and referral to school dental services</li> <li>• At baseline exams 2/3 of the children had decay (almost all untreated)</li> <li>• Authors reported the intervention group had a lower net caries increment by 3 surfaces per child</li> <li>• Prevented fraction of 24-36% caries (despite ubiquitous caries in the communities)</li> <li>• Authors reported trouble in engaging local healthcare workers in delivering the oral health prevention programs</li> <li>• Difficulty with staff turnover and the heavy demands on the workers time</li> </ul>
<p>Slade GD, Rozier RG, Zeldin LP, Margolis PA (2007)</p>	<p>Training pediatric health care providers in prevention of dental decay: results from a randomized controlled trial</p>	<p>RCT</p>	<ul style="list-style-type: none"> <li>• Aim of study was to compare the impact of 3 different forms of continuing medical education on the provision of preventive dental services to Medicaid children</li> <li>• Education formats were 90 minute lecture with case presentation; lecture and additional support via conference calls; lecture plus call plus in-office support from a hygienist</li> <li>• Looked at the rate of dental services provision</li> </ul>

Summary Table of References and Background Readings

Authors	Title	Study Type	Results
			<ul style="list-style-type: none"> <li>• Found that rate of provision not influenced by education format</li> <li>• 38-49% of practices enrolled provided 20 or more preventive dental visits within 12 months</li> <li>• On average 10% of Medicaid children received the dental preventive procedures</li> <li>• Large (high volume) practices more likely to deliver the prevention (role of reimbursement)</li> </ul>
Sohn W, Burt BA, Sowers MR (2006)	Carbonated Soft Drinks and Dental Caries in the Primary Dentition	Secondary (cluster) analysis of NHANES III (1988-1994) data	<ul style="list-style-type: none"> <li>• Defined fluid consumption as high milk, high juice, high carbonated soft drinks, high plain water, high coffee/tea and other</li> <li>• Cluster analysis stratified by age groups (2-year olds, 3-5-year olds, 6-10-year olds)</li> <li>• 8.8% of total fluid consumption among 2-10-year olds is carbonated soft drinks</li> <li>• Plain water consumption accounted for 32% of total fluid consumption</li> <li>• The amount of caries-free children within the high carbonated soft drink group was 10-15% less than other groups</li> <li>• Authors found that high consumption of carbonated soft drinks in early childhood was significantly associated with increased risk of dental caries (in primary teeth)</li> <li>• Cannot infer causality as NHANES was cross-sectional survey</li> </ul>

## Summary Table of References and Background Readings

Authors	Title	Study Type	Results
Spencer AJ, Bailie R, Jamieson L (2010)	The Strong Teeth Study; background, rationale and feasibility of fluoridating remote Indigenous communities	Program evaluation	<ul style="list-style-type: none"> <li>• Looked at the success and failure of fluoridating remote Indigenous communities</li> <li>• Found that oral health behaviours amongst remote Indigenous communities were inadequate</li> <li>• Children started brushing with fluoridated toothpaste at 4-years and did not brush daily</li> <li>• Reported failure due to lack of high level government support and funding, lack of training and support for staff responsible for the program, lack of community ownership of water treatment plants</li> <li>• Stressed that key personnel must be engaged, accept evidence and have the support of stakeholders</li> </ul>
Truin GJ, van't Hof MA (2005)	Professionally Applied Fluoride Gel in Low-caries 10.5-year-olds	RCT (double-blinded randomized controlled clinical trial)	<ul style="list-style-type: none"> <li>• Included 594 children between 9.5-11.5yrs who were regular attenders at 3 paediatric urban dental clinics in the Netherlands</li> <li>• Each clinic within non-fluoridated area</li> <li>• Received either placebo or 1% NaF gel every 6 months (4 minute application)</li> <li>• Subjects also had sealants applied</li> <li>• Authors found no statistically significant differences in the caries increment of the permanent dentition</li> </ul>

## Summary Table of References and Background Readings

Authors	Title	Study Type	Results
			<ul style="list-style-type: none"> <li>• The prevented fraction had a mean relative effect of professionally applied fluoride of 18% (permanent teeth and erupting second molars)</li> <li>• Authors state the placebo group regularly attended a paediatric clinic and likely has a fluoride history (<b>confounding</b>)</li> </ul>
Truman BI <i>et al</i> (2002)	Reviews of evidence on Interventions to Prevent Dental Caries, Oral and Pharyngeal Cancers, and Sports-Related Craniofacial Injuries	Systematic review	<ul style="list-style-type: none"> <li>• These reviews form the basis of the Task Force on Community Preventive Services</li> <li>• Promoting oral health is within the mainstream of public health practice and not exclusively the concern of dental providers</li> <li>• Defines community preventive services as an intervention that prevents disease/injury and promotes health within a group of people</li> <li>• Strong evidence to support CWF and school-based or linked sealant programs (but not state-wide sealant programs)</li> </ul>
U.S. Department of Health and Human Services (2000)	Oral Health in America: A report of the Surgeon General	Literature review and policy paper	<ul style="list-style-type: none"> <li>• Intent of paper was to make Americans aware of the full meaning of oral health and its importance to general Health Canada - Santé Canada</li> </ul>

## Summary Table of References and Background Readings

Authors	Title	Study Type	Results
			<ul style="list-style-type: none"> <li>• Major findings included that oral diseases affect health and well-being at all stages of life; safe and effective measures exist to prevent common dental diseases; personal behaviour choices affect oral and craniofacial health; profound oral health disparities exist within the U.S.; the mouth reflects general health; continuing research is needed to help reduce the burden of disease; oral diseases are related to other systemic diseases and data continues to play an integral role in the elimination of diseases</li> </ul>
Walsh T, Worthington HV, Glenny AM, Applebe P, Marinho VCC, Shi X (2010)	Fluoride toothpastes of different concentrations for preventing dental caries in children and adolescents (Review)	Cochrane review	<ul style="list-style-type: none"> <li>• Looked at various toothpaste concentrations</li> <li>• Found that caries prevention only seen for toothpastes with greater than 1000ppm</li> <li>• Prevented fraction of 25% (increased with increasing fluoride concentration)</li> <li>• Recommend use of 1000ppm for children under 6-years of age must be weighed against risk of fluorosis</li> </ul>

## Summary Table of References and Background Readings

Authors	Title	Study Type	Results
Weintraub JA (2003)	Fluoride varnish for caries prevention: comparisons with other preventive agents and recommendations for a community-based protocol	Literature review	<ul style="list-style-type: none"> <li>• Looked at the use of fluoride varnish in special needs populations (high risk)</li> <li>• Recommended 6-monthly varnish application, varnish be used over fluoride gels, community water fluoridation, sealants for occlusal protection and chlorhexidine use</li> </ul>
Weintraub JA <i>et al</i> (2006)	Fluoride Varnish Efficacy in Preventing Early Childhood Caries	RCT	<ul style="list-style-type: none"> <li>• 2 year study within an optimally fluoridated area (1ppm)</li> <li>• All participants received 3 dental examinations (without radiographs)</li> <li>• Compared Duraphat® and counselling to counselling alone</li> <li>• Had protocol violation resulting in the delivery of 'fluoride-free' or placebo varnish</li> <li>• Found that 6-monthly applications best but in public clinic single application better than none</li> <li>• No adverse events reported</li> <li>• Recommend varnish and caregiver counselling for the prevention of ECC</li> </ul>
Whelton H, O'Mullane D (2001)	The Use of Combinations of Caries Preventive Procedures	Literature review	<ul style="list-style-type: none"> <li>• Looked at combinations of fluoride procedures; fluorides and fissure sealants; chlorhexidine and other agents</li> <li>• Reported that the most promising program includes sealants and fluoride use</li> </ul>

## Summary Table of References and Background Readings

Authors	Title	Study Type	Results
			<ul style="list-style-type: none"> <li>• Also stated that the use of chlorhexidine has good evidence base but limited evidence of its use within caries management systems</li> </ul>
<p>Wong MCM, Glenny AM, Tsang BWK, Lo ECM, Worthington HV, Marinho VCC (2010)</p>	<p>Topical fluoride as a cause of dental fluorosis in children (Review)</p>	<p>Cochrane review</p>	<ul style="list-style-type: none"> <li>• Reported high levels of bias in the majority of studies included</li> <li>• Reported significant reduction in development of fluorosis if fluoridated toothpaste not introduced until after 12 months of age</li> <li>• Higher risk of fluorosis with higher concentration toothpastes</li> <li>• Recommend that if development of fluorosis is a concern then toothpaste with less than 1000ppm should be used</li> </ul>
<p>Yengopal V, Mickenautsch S, Bezerra AC, Leal SC (2009)</p>	<p>Caries-preventive effect of glass ionomer and resin-based fissure sealants on permanent teeth: a meta-analysis</p>	<p>Meta-analysis</p>	<ul style="list-style-type: none"> <li>• Stated that the caries incidence/increment should be the outcome measure not retention</li> <li>• GIC sealants are believed to maintain their protective effect despite partial or complete loss as the initial fluoride release has sealed subsurface tubules</li> <li>• Resin-based sealants lose all protective properties when partially or completely lost</li> <li>• Noted that majority of studies looked at now obsolete low-viscosity GIC's</li> </ul>

Summary Table of References and Background Readings

Authors	Title	Study Type	Results
			<ul style="list-style-type: none"> <li>• Found no evidence that either material was superior to the other for preventing decay</li> </ul>
Yeung A, Hitchings JL, Macfarlane TV, Threlfall A, Tickle A, Glenny AM (2008)	Fluoridated milk for preventing dental caries (Review)	Cochrane review	<ul style="list-style-type: none"> <li>• Limited evidence that is high quality</li> <li>• The studies available lacked internal validity</li> </ul>