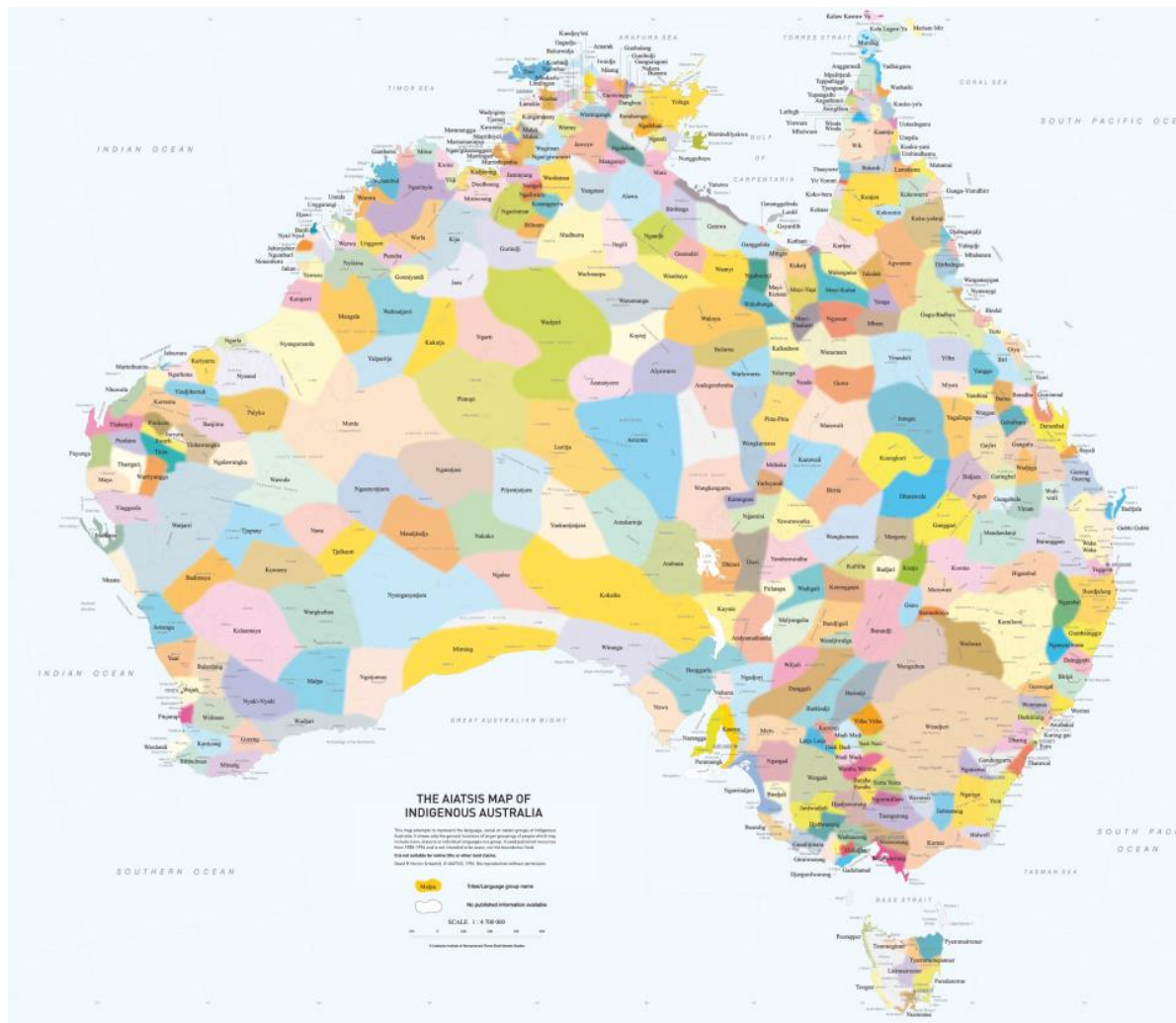


Welcome to today's Insight APSAD webinar.

We'll be starting a little after 10am (QLD time).

- Use the chat icon for all questions and comments – *select All panelists and attendees.*
- If you are on a computer and Zoom enters full screen mode – you can press the escape button or visit “View Options” at the top of the screen to change the layout.
- If you are experiencing other problems or require further technical assistance call Zoom on **1800 768 027** – the webinar ID is **973-118-396-68**.
- A pdf version of today's presentation will be available soon in the chat window.
- A recording of this webinar will be available on our YouTube channel in the coming weeks.





We acknowledge the Traditional Owners of the land on which this event takes place and pay respect to Elders past and present.

This map attempts to represent the language, social or nation groups of Aboriginal Australia. It shows only the general locations of larger groupings of people which may include clans, dialects or individual languages in a group. It used published resources from 1988-1994 and is not intended to be exact, nor the boundaries fixed. It is not suitable for native title or other land claims. David R Horton (creator), © AIATSIS, 1996. No reproduction without permission. To purchase a print version visit: www.aiatsis.ashop.com.au/



Metro North Hospital and Health Service *Putting people first*

Metro North Oral Health Services

Oral Health and the Impact of AOD use

A Presentation for the Alcohol and Other Drug clinical workforce

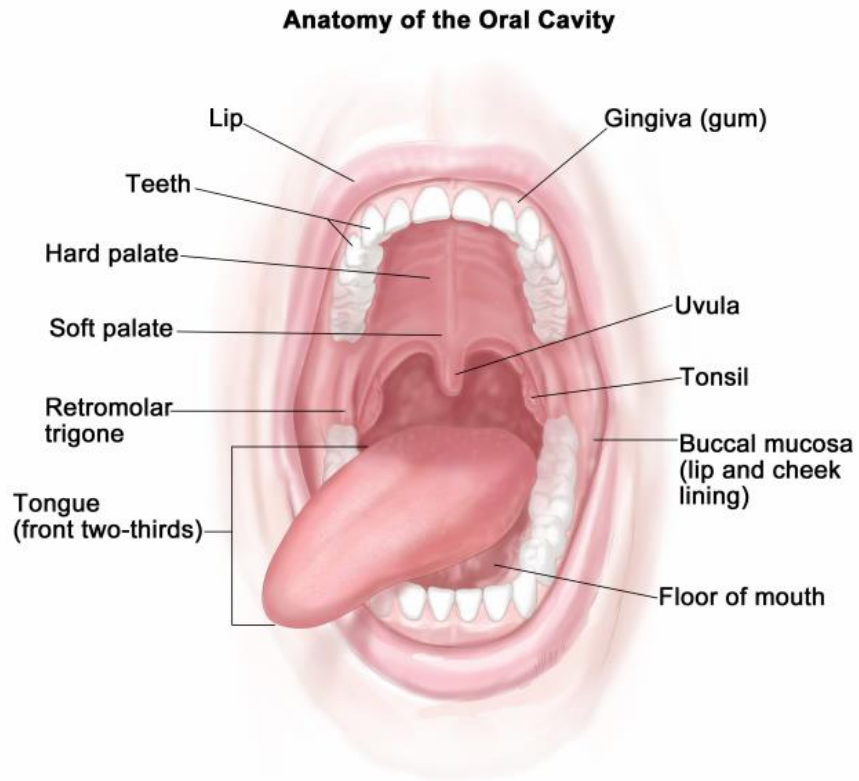
Presented by Mary Crofton, Oral Health Therapist

Overview

- Oral Health and the Oral Cavity
- The importance of saliva
- Direct and indirect consequences of AOD use
- Oral conditions and pathologies associated with drug and alcohol misuse
 - Opioids – Heroin/Methadone
 - Stimulants – Cocaine, Meth/amphetamines
 - Cannabis
 - Alcohol
 - Tobacco
- Issues for Indigenous populations and younger people
- Supporting your clients
 - General oral health advice
 - Referral Pathway
- References

The Oral Cavity

- Structures



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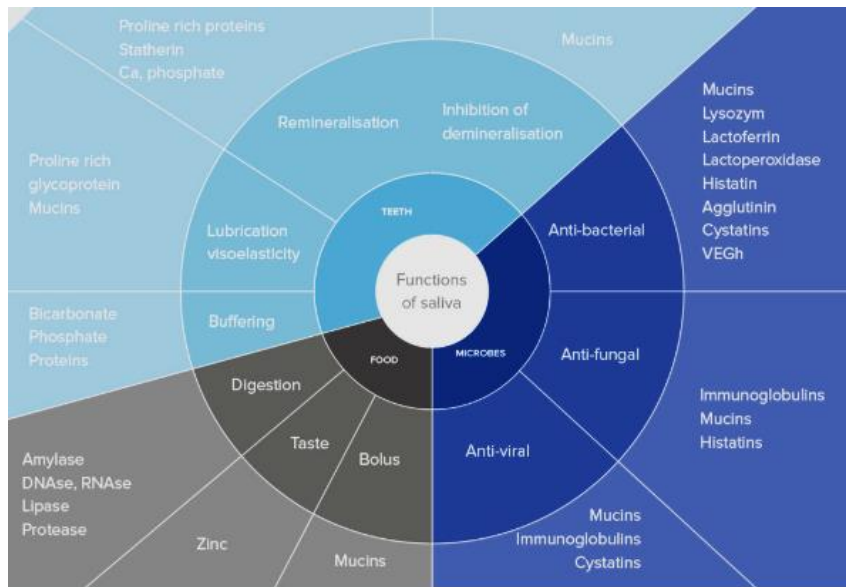


Signs of a Healthy Mouth

- Healthy oral tissues
 - Tongue, Lips, Cheeks
 - Pink, firm, moist
- Healthy gums
 - Pink, firm to touch
 - Not red/white/swollen/tender
 - Teeth are firm
 - No flaps/pockets/recession
- Strong teeth and restorations
- Pleasant or neutral breath
- Proper jaw alignment and tooth spacing
 - Easier to keep clean
 - Impacts chewing and digestion



Saliva/Dry Mouth



- Saliva is essential to oral health
- Immunological protection/antimicrobial action
- Reservoir of ions (buffering capacity)
 - Aids remineralisation
- Helps swallowing, talking, and taste, and protects the mouth
- Protective of the oral environment – washing action
- Prevents bad breath
- Quality/quantity is affected by drug use (prescribed and illicit)
 - parasympathetic system is inhibited
 - Sympathomimetic action (SSRIs, SNRIs, antihypertensives, CNS stimulants)
 - Anticholinergic activity (Tricyclics, Antipsychotics, antihistamines, atropine)
 - Synergistic activity (Opioids, Benzos, methamphetamines)
 - Alcohol, cannabis, tobacco
 - Anti-HIV drugs

Direct and Indirect consequences

- Direct exposure of oral tissues to drugs
- Biological interaction of drugs with normal physiology of oral cavity
- Effects of drugs on brain function
 - Risk taking behaviour, Aggression, Carelessness
 - >>> high rate of traumatic orofacial injuries, # teeth
- Unhealthy behaviours
 - Poor oral hygiene
 - Increased sugar intake
 - Inappropriate nutrition
 - Poor dental attendance – lack of access or lack of take up
- Low priority on oral health
- Fear of dentists/needle phobia and fear of being judged
- Delay in receiving dental treatment or refusal of treatment
 - May require blood tests to determine status
 - Impact on efficacy and metabolising of dental drugs
 - Long half-life of some substances
 - Adverse cardiac effect of LA use
 - Poor management due to ongoing/long-lasting psychosis and paranoia
 - Running late or under the influence

Xerogenic patients – general issues

- Risk of dental decay (caries) – oral bacteria can drastically increase,
- Halitosis,
- Altered/unpleasant taste,
- mouth soreness and infections
- Difficulty with
 - chewing (cannot form bolus)
 - swallowing (no lubrication)
 - Speaking (clicking speech)
- Difficulty controlling dentures
- Dryness of eyes and other mucosae (nasal, laryngeal, genital)
 - Blurry vision
 - Light intolerance
 - Burning, itching, grittiness

Diseases of the oral cavity

Dental Decay

Gingivitis and Periodontal disease

Xerostomia

Bruxism

Oral Ulcers and Infection

Oral Cancers and orofacial tissue changes

Oral Conditions and Pathologies



Opioids (Heroin/Methadone)

- Salivary hypofunction
 - Xerostomia
 - Burning mouth
 - Taste impairment/Altered taste
 - Eating difficulties
 - Mucosal infections
- Dental pain potentially obscured by drug use
- Rampant caries
 - Decay on smooth and cervical surfaces
 - Tooth loss/Extractions
 - Personal neglect/Poor OH
 - Depression etc – delay in seeking Tx
- Gingival and Periodontal diseases
- Oral fungus, oral viral infections and discoloration of the tongue
- Bruxism – increased incidence of psychological problems
- Heightened risk for IE and Hepatitis B & C
- Decreased effectiveness of LA

Desomorphine

- High incidence of ONJ
- Triggered by
 - need for exo
 - Poor OH
 - Poor quality dentures
 - Failed endo Tx
 - Periodontitis
 - Acute/chronic trauma
- Swelling of oral mucosa

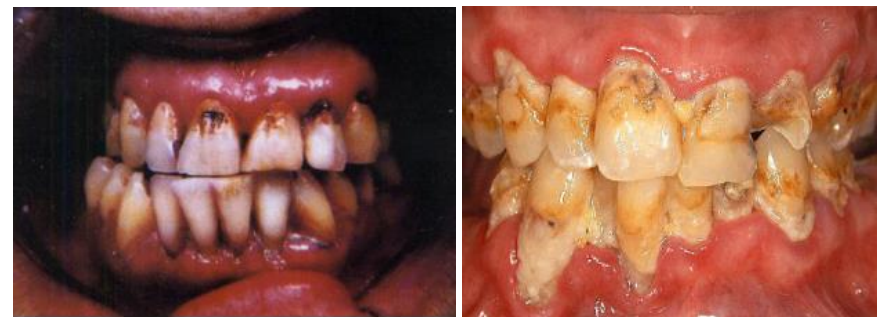
Rampant tooth decay and periodontitis is a common presentation
Anxiety and opioid use can reduce the effectiveness of local
anaesthetic
Injecting drug users are at greater risk of blood borne viruses and
infective endocarditis

Negative effects of MMT

- Methadone
 - caustic,
 - acidic,
 - sugary syrup
- Xerostomia
- Bruxism
- Increased cell cycle dysfunction – disruption of natural microbial defence in the mouth
- Very specific pattern of caries on buccal and cervical smooth surfaces and proximal surfaces predominantly of anterior teeth
- Related to wide range of behavioural factors
 - Lack of oral hygiene
 - High sugar intake – drug induced cravings for high-calorie carbonated beverages
 - Decreased salivary secretion
 - Holding in mouth to increase absorption/late injection/sale
- ↑ psychological problems related to poor dental attendance/anxiety and fear (needle phobia, dental anxiety)

Methamphetamine Mouth is not the same as Methadone Mouth

- Methadone v Methamphetamine use
- Same detrimental effect on oral cavity
- However, meth users
 - Higher gross decay
 - More severe tooth destruction



Brondani et al, 2011

Stimulants - Methamphetamine



Frese & McClure 2017

More likely to experience caries (96% of users) and have untreated decay (58% of users)... same rate of dental disease exists between those who smoke, snort or inject Meth... less than a quarter retain all their natural teeth (23%)

NIDA 2020, Shetty et al, 2016; Spolsky et al, 2018

- Bruxism >> grinding, clenching, difficulty in chewing and opening the jaw (TMJ pain)
- Erosion >> excessive tooth wear and sensitivity
- Rampant caries
 - Extreme xerostomia/salivary suppression and poor buffering capacity
 - Poor OH and dehydration due to hyperactivity
 - Significantly increased intake of acidic, sugary carbonated drinks
- Periodontal disease due to vasoconstriction
- Edentulism
- Oral ulcers and infection
 - Direct corrosive effect on oral tissues
 - Caustic/Acidic ingredients
 - Lining of mouth and tongue become raw
 - Lead to secondary infections and limited ability to eat and speak

Stimulants – Cocaine

- Perforation
 - Nasal septum
 - Palate
 - Complications with speech, eating and drinking
- Vasoconstrictor
 - Ischaemia and necrosis of orofacial tissues
- Loss of/change in sense of smell
- Chronic sinusitis
- Dental Caries
- Gingival lesions and gingival recession
 - Direct caustic effect
 - Vasoconstrictive properties
- Dental attrition/erosion
 - Bruxism/TMJ pain
 - Reduction in saliva pH induced through drug use (pH4.5)



New England Journal of Medicine
2007

- Burns/sores on lips and inside mouth may ↑ risk of oral transmission of HIV
- Candida infections, Angular Cheilitis, Halitosis
- Changes in oral mucosa
 - Increased cell proliferation
 - Chromosomal breakage and cellular death
- LA issues

Bruxism, clenching and non-carious tooth wear are a common presentation

Gingival erosions, retraction and ulcerative lesions may be present

Chronic sinusitis, epistaxis and nasal crusting is a frequent adverse effect

Defer dental treatment for 6–24 h after the last administration of cocaine

Cannabis (Marijuana/Hashish/Hash Oil)

- Stimulates appetite
- Increased risk of oral cancer – tissue change and cellular disruption
- Periodontitis, esp in younger adults (dose-response association)
- Xerostomia
- Leukodema, leukoplakia / erythroplakia, hyperkeratotic lesions
- High prevalence and density of Candida Albicans
 - Poor denture hygiene
 - Poor nutritional factors
- Adverse effects on vasculature (e.g. can contribute to pulpitis)
- Significantly higher decay rates
 - Low frequency of daily OH
 - Higher consumption of cariogenic beverages
 - Poor psychomotor performance – reduced OH care
 - Less frequent dental attendance

*“One marijuana cigarette deposits approximately 4 times as much tar in the respiratory tract compared to a single filtered tobacco cigarette”
Zhang et al 1999*

Cannabis abusers generally have poor oral and periodontal health
Cannabis intoxicated patients may experience acute anxiety and dysphoria during treatment
Local anaesthetic containing adrenaline may prolong tachycardia following an acute dose of cannabis
Chronic smokers of cannabis have increased risk of developing oral leukoplakia and oral cancer, oral candidosis and other oral infections

Alcohol

- Affects every organ in the body
- Xerostomia
 - Dehydrates the patient
- Dental Caries
 - Most alcoholic drinks (esp. w/ mixers) are very sugary and acidic
 - Neglect personal care
 - Consume higher levels of refined carbohydrates (“munchies”)
 - Frequent vomiting (acidic)
- Periodontal disease
 - Impairs neutrophil function = bacterial overgrowth
 - Neutrophilic phagocytosis
 - Direct toxic effect on periodontal tissue
 - Increases monocyte production of inflammatory cytokines in the gingival crevice
- Oral Cancer
 - Lips, tongue predominantly
- Bleeding disorders
 - Damage to bone marrow and liver = excessive bleeding during dental tx
- Effectiveness of drugs
 - Used in dentistry – benzos, amide LAs
 - Liver damage impacts metabolism (faster)
 - LA does not work as well at the injection site/carried into the bloodstream more rapidly

Tobacco

- Xerostomia
- Black Hairy Tongue
 - Papillae form in response to tobacco waste
 - Slowed cell sloughing
 - Food and bacteria trapped - halitosis
- Stain and dental calculus
 - Saliva flow decreased – chronic smokers
 - Act of smoking stimulates serous saliva flow, and can increase calculus production
- Gingival and Periodontal diseases inc. NUG
- Candidiasis, nicotine stomatitis,
- Ability to heal
 - Induces chronic systematic inflammatory response
 - Impairs response to infection
 - Exacerbates bone loss
 - Vasoconstrictor
 - Delayed wound healing – dry sockets
- Oral Cancers – Leukoplakia, SCC



Other substances

Hallucinogens (MDMA/Ecstasy, LSD)

- Xerostomia
- Bruxism, grinding, clenching (trismus)
- Malnutrition/drug-induced anorexia
- TMJ tenderness
- Dental caries
- Toothwear

Prescription Medications

Oral implications of prescription medication use and abuse are vast depending on the specific drug being used/abused

- Antidepressants, Anti-anxiety drugs, Anti-psychotics and Anti-HIV drugs
- Xerostomia
- Clenching/grinding
- Caries
- Periodontal disease
- Salivary gland hypofunction
- Halitosis

Aboriginal and Torres Strait Islanders and Younger People

Aboriginal and Torres Strait Islanders

- Same oral manifestations/conditions as non-Indigenous Australians
- Predominantly urbanised populations
- Top issues
 - Alcohol
 - Cannabis
 - Amphetamines
- Use rates stable – significantly increased for non-Indigenous Australians (cannabis, ecstasy, cocaine)

Younger People (18 – 24 years)

- Same oral manifestations/conditions as other drug users
- Increase in proportion of people who use e-cigarettes and RYO
- Daily smoking rates halved
- Reduction in use of illicit drugs although
↑cocaine
- Alcohol major issue
- Binge drinking may cause vomiting – erosion

	Indigenous (%)	Non-Indigenous (%)	18-24 years (%)
Daily smokers	43.4	15.1	9.2
Cannabis*	15.5	12	25
Meth/amphetamine*	3.1	1.3	2.3
Prescription meds*	7.7	4.1	6.3
Risky alcohol consumption*	10.6	6.4	14.6

AIHW 2020 – National Drug Strategy Household Survey * all figures Indigenous and non-Indigenous figures adjusted for age.

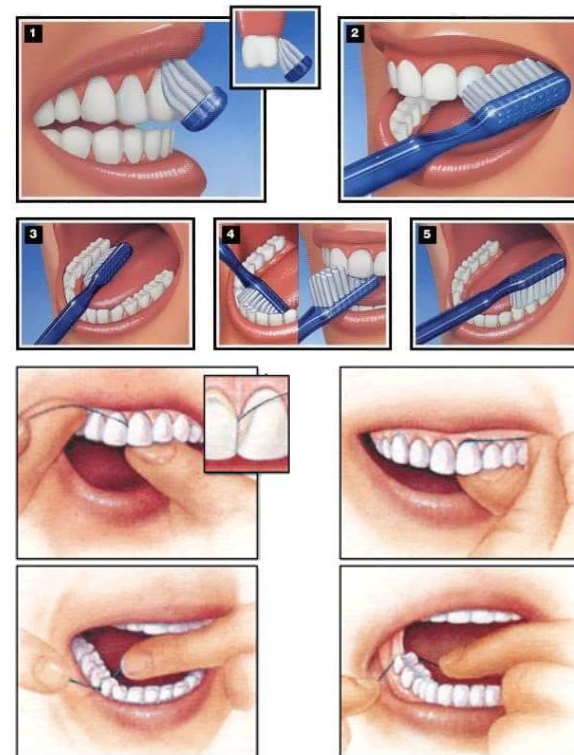
Summary of Oral Impacts of AOD Use

	Opioids	Methadone	Cannabis	Meth/ Amphetamine	Cocaine	Alcohol	Tobacco	Hallucinogens	Prescription
Xerostomia	X	X	X	X	X	X	X	X	X
Caries	X	X	X	X	X	X	X	X	X
Periodontal disease	X	X	X	X	X	X	X		X
Tooth Loss	X	X		X	X				
Bruxism	X	X		X	X			X	X
Trismus (clenching)		X		X	X			X	X
Toothwear (Erosion/Attrition)		X		X	X	X		X	
Staining/Black teeth		X		X	X		X		
Oral Cancers			X		X	X	X		
Taste altered or impaired	X	X					X		
Discolouration of the tongue	X	X					X		
Candidiasis	X	X	X		X		X		
Craving for sweet food/drinks or carbohydrates	X	X	X	X	X	X			
Ulcers, infections, tissue destruction				X	X				
Halitosis				X	X		X	X	X

Oral Hygiene Advice

- Remove plaque twice/day
 - Soft brush/electric toothbrush
 - Tip of brush should sit on gum line
 - Bleeding on brushing
 - Pain on brushing and what to do
- Flossing/interdental cleaning
- Mouthwash
 - does not replace mechanical removal
 - When to use
- Limit sugary and/or acidic beverages
 - Caffeine
 - Black cola drinks
 - Fruit juices vs vegetable juices vs milk-based drinks
 - Role of acid
- WATER IS THE DRINK OF CHOICE
- Role of Fluoride
 - Paste
 - Tap water

- Healthy diet
 - Balanced
 - Avoid processed food
 - Fish, berries and dairy
- SUGAR




Images: OralB [dentalcare.com]

Tips for managing a dry mouth


- Drink enough water, and sip on water and other non-sugary fluids throughout the day. Rinse with water after meals
- Replace missing saliva with salivary substitutes. Use alcohol-free mouth rinses, or moisturising gels.
- Stimulate saliva with sugar-free chewing gums, dry mouth gum or drugs that stimulate salivation if advised by a specialist.
- Always take water or non-alcoholic drinks with meals and avoid dry or hard crunchy foods. Avoid spices.
- Avoid anything that may worsen dryness, such as:
 - drugs, unless they are essential (eg antidepressants)
 - alcohol (including in mouthwashes)/Smoking (tobacco or other substances)/caffeine (coffee, cola soft drinks)
 - Mouth breathing
- Protect against dental caries by avoiding sugary foods/drinks and by:
 - keeping your mouth very clean (twice daily toothbrushing and flossing)
 - using a fluoride toothpaste, gels or mouthwashes daily before going to bed
 - having regular dental checks.
- Protect against thrush, gum problems and halitosis by keeping your mouth very clean and moist and by:
 - rinsing twice daily with chlorhexidine
 - brushing or scraping your tongue
 - keeping dentures out at night and disinfecting dentures in hypochlorite (eg Milton, Dentural)

Tips for Methadone Users

Visit the dentist for a full mouth checkup even if you have no teeth. If you have a medical card you can get free treatment.




- ✓ Use sugar free methadone if possible
- ✓ Brush the teeth for 2-3 mins with fluoride toothpaste before & after treatment 
- ✓ Spit out after brushing, don't rinse
- ✗ Do not use mouth wash unless advised by dentist

Dry Mouth

- ✓ Drink lots of water after treatment 
- ✓ Sugar free gum increases saliva

Diet

Methadone may cause sugar cravings

- ✓ Choose healthy sugar free snacks & drinks 
- ✓ Best drinks milk & water
- ✓ Drink tea & coffee without sugar
- ✗ Avoid fizzy drinks 
- ✓ Try to eat more fruit & veg 
- ✓ If you smoke, try to stop
- ✓ If you drink alcohol, try to reduce the amount

Referral to Oral Health services

Free dental care is available for all pension, health and senior card holders in Qld,

This is through the different Health Service districts in Southeast Qld.

Metro North, Metro South and West Moreton HHS's.

We offer emergency and general treatment through the call centre,

We do offer specialist treatment such as dentures, crown and bridge and treatment of periodontal disease.

There are wait lists for general and specialist care

The call centre number for Metro North is 1300300850

References

- Australian Institute of Health and Welfare 2020. Alcohol, tobacco & other drugs in Australia. Cat. no. PHE 221. Canberra: AIHW. Viewed 18 November 2020, <https://www.aihw.gov.au/reports/alcohol/alcohol-tobacco-other-drugs-australia>
- Baghaie, H., Kisely, S., Forbes, M., Sawyer, E., and Siskind, D. J. (2017) A systematic review and meta-analysis of the association between poor oral health and substance abuse. *Addiction*, 112: 765– 779.
- Brondani, Mario & Park, Earl. (2011). Methadone and Oral Health – A Brief Review. *Journal of dental hygiene : JDH / American Dental Hygienists' Association*. 85. 92-8.
- Brown C, Krishnan S, Hursh K, et al. Dental disease prevalence among methamphetamine and heroin users in an urban setting: a pilot study. *J Am Dent Assoc*. 2012 Sep;143(9):992-1001.
- Cho CM, Hirsch R, Johnstone S. “General and oral health implications of cannabis use”. *Aust Dent J* 2005;50:70–74.
- Department of Scientific Information, Evidence Synthesis & Translation Research, ADA Science & Research Institute, LLC <https://www.ada.org/en/member-center/oral-health-topics/methamphetamine> accessed 11 November 2020
- Frese PA & McClure E An Introduction to Substance Use Disorders for Dental Professionals <https://www.dentalcare.com/en-us/professional-education/ce-courses/ce545> 2017 accessed 11 November 2020
- Lypka MA & Urata MM, Cocaine induced palatal perforation *N Eng J Med* 2007; 357;1956
- NIDA. 2020, September 9. Drug Use and Your Mouth. Retrieved from <https://teens.drugabuse.gov/drug-facts/drug-use-and-your-mouth> accessed 11 November 2020
- Scully C & Felix DH Oral Medicine — “Update for the dental practitioner. Dry mouth and disorders of salivation” *BDJ*. 2005; 199:423-427
- Shetty V, Harrell L, Murphy DA, et al. Dental disease patterns in methamphetamine users: Findings in a large urban sample. *J Am Dent Assoc* 2015;146(12):875-85.
- Spolsky VW, Clague J, Murphy DA, et al. Periodontal status of current methamphetamine users. *J Am Dent Assoc* 2018;149(3):174-83.
- Sun D, Ye T, Ren P & Yu S “Prevalence and etiology of oral diseases in drug-addicted populations: a systematic review” *Int J Clin Exp Med* 2018;11(7):6521-6531
- Teoh L, Moses G, & McCullough MJ “Oral manifestations of illicit drug use” *Aust Dent J* 2019; 64: 213–222
- Zhang ZF, Morgenstern H, Spitz MR, et al. Marijuana use and increased risk of squamous cell carcinoma of the head and neck. *Cancer Epidemiol Biomarkers Prev* 1999;8:1071–1078



Thanks for joining us today!

Have a fabulous Christmas!
Wishing you all the best for new year.
We shall see you in March 2021

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