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## Educational Objectives:

*Understand the biological pathways of oral inflammation and the impact on systemic health*
*Understand the role and influence of the dental hygienist in risk intervention strategies*
*Sel-evaluate present assessment protocols related to risk intervention*
*Discover how science and strong evidence have influenced today's oral care products.*

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Notes:

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# First on the Scene

### A First Responder

*"a person with specialized training who is among the first to arrive and provide assistance at the scene"*
The dental hygienist is a 'first responder' to the oral cavity with our profession being optimally situated at the portal of entry and the gateway to systemic health.
As a critical stakeholder, we strongly influence both the quality and quantity of life of every patient seated in our treatment room.

## *The biological pathways of oral inflammation and the impact on systemic health*

### Periodontitis Burden of Disease

Periodontitis and peri-implant disease rank 11th among the most prevalent global diseases
Canada ranks 6th in disease prevalence globally

- 1 in 3 patients or one in five implants are affected by peri-implantitis
- 7 out of 10 Canadians will develop periodontal disease at some stage in their lifetime

Systemically, the impact is far reaching;

- 19% increased risk of cardiovascular disease; > 44% in individuals aged 65 and over
- 3.2x greater mortality risk in Type II diabetics with moderate/severe periodontitis
- 12.5% of live births considered preterm with infectious pathogens contributing to 25 – 40%

### Evolution of Beliefs, Science and Knowledge

### Historical Beliefs

- Equal susceptibility and that disease severity was directly related to magnitude bacterial exposure over time
- All patients would respond predictably to bacterial load reduction and regular maintenance care

### Present Day Science and Knowledge

- Bacteria is an essential initiating factor; however level of clinical severity is a complex, multifactorial host response
- Variations in host response capability to address inflammation, tissue repair influencing overall therapeutic outcomes necessitates a different approach to modulating the host
- Our mechanical approach to periodontitis and the oral inflammatory burden is in fact a continual and repetitive reactive effort

***"The most important health provider that you may see during the pandemic and beyond is a dental hygienist."*** Dr. Tim Donley

### Why is this so? Fast forward to today's world…

- The pandemic has taught us the relationship of COVID severity with cytokine storms; elevated IL-6 levels were predictors of pulmonary complications and the need for ventilation;
    - *COVID-19 patients with periodontitis were 3.5 times more likely to be admitted to intensive care, 4.5 times more likely to need a*

Notes:-


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*ventilator, and almost nine times more likely to die compared to those without periodontal disease.*

- Undeniable likeness between the periodontal inflammatory profile and COVID-19 severity directly related to cytokine storm
- Dental hygienists play a critical and essential role with active periodontal disease increasing IL-6 levels both locally and systemically

**The overachieving, excessive immune response**

In a healthy host response, the mild immune state is balanced; and no further periodontal destruction is initiated.

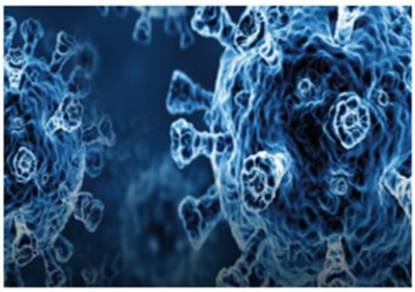
The overgrowth of gram-negative bacterial species in subgingival sites initiates the localized infection resulting in oral dysbiosis

The destructive aspect of periodontal disease however is a result of a heightened inflammatory state dictated by the host response

When transient infection becomes chronic, an excessive pro-inflammatory mediator release results in the body turning against itself

"What shocked us was the discovery of the protein's devastating, life-threatening impact to patients once they're hospitalized. One tiny, inflammatory protein [IL-6] robbed them of their ability to breathe."

SHERVIN MOYALEM, DDS
Founder of the UCLA Dental Research Journal.



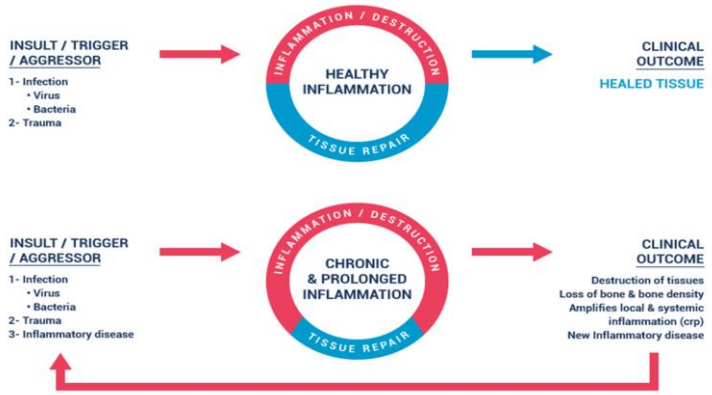
**At the Cellular Level**

Excessive cytokines such as IL-6, and neutrophils cause direct tissue damage leading to systemic inflammation

- Hyperactive, primed neutrophils predispose individual to develop periodontitis

Over abundance of collagenase (MMP-8)

- Direct cause of deterioration of the extracellular matrix supporting connective tissues
- Considered one of the key mediators of inflammatory-derived tissue destruction in the pathogenesis of periodontal disease




**Preterm Low Birth Weight**

Preterm delivery is defined as birth before 37 weeks of pregnancy have been completed.

Low birth weight refers to infants who weigh less than 5.5 lbs. caused by intrauterine growth restriction, prematurity or both.

In 2021, 1 of every 10 infants born in the U.S. was preterm with rates continuing to rise

How is this linked to periodontitis?

Presence of pathogenic oral bacteria in placenta results in increased exposure to fetus increasing amniotic PGE production

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**Recommended Reading:**


Bale B, Doneen A. Beat the Heart Attack Gene: The Revolutionary Plan to Prevent Heart Disease, Stroke, and Diabetes. Nashville, TN: Turner Publishing Co.


Endotoxins released by microorganisms together with proinflammatory cytokines stimulate production of PGE2 which in turn stimulate the uterus (myometrium) to contract resulting in onset of preterm labor

### Cardiovascular Disease

CVD is the leading cause of death in Canada

- 1 in 12 (or 2.6 million) Canadian adults age 20 and over live with diagnosed heart disease
- Every hour, about 14 Canadian adults age 20 and over with diagnosed heart disease die
- Males are 2x more like to suffer a heart attack and diagnosed on average 10 years earlier than females

How is this linked to periodontitis?

- Shared risk factors
- Subgingival biofilms serving as reservoirs of gram-negative bacteria
- Altered host response as a result of chronic inflammation and the influx of systemic inflammatory mediators

### Diabetes

In Canada;
30% live with diabetes or prediabetes;
10% live with diagnosed diabetes, a figure that climbs to 15% when cases of undiagnosed type 2 diabetes are included.
How is this linked to periodontitis?
Altered host response as a result of chronic inflammation and the influx of systemic inflammatory mediators resulting in insulin resistance and decreased insulin action.
Increased collagenase activity (MMP-8) coupled with decreased collagen synthesis especially in poorly controlled diabetes

### Alzheimer's Disease

AD is a progressive neuroinflammatory and neurodegenerative disease of the brain
1 in 9 are living with Alzheimer's dementia; Risk doubles every 5 years between the ages of 65 and 84
2/3's of Canadians over the age of 65 who have dementia are women
Alzheimer's disease is fatal with people over 65 y.o. surviving an average of 4 – 8 years after diagnosis
Disease is characterized by three major hallmarks;

- Accumulation of beta-amyloid plaques
- Neurofibrillary tangles
- Neuroinflammation

How is this linked to periodontitis?

- Major concentration of P. gingivalis, a gram-negative anerobic predator is found in the subgingival sulcus
- Also found in brains of people with AD through autopsy findings and in cerebrospinal fluid of individuals living with AD
- Gingipains are chief virulence factor in P. gingivalis promoting disruption and manipulation of the inflammatory response; abundant in autopsy specimens promoting neuronal damage

## *The role and influence of the dental hygienist in risk intervention strategies*

### Today's Healthcare Focus

Healthcare generally is a 'reactive model' vs a 'proactive model'
This is where our profession truly can make an impact
Risk assessment and risk mitigation are critical components of our dental hygiene assessment

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**Resource**

https://cwhhc.ottawaheart.ca/education/risk-factors/blood-pressure

CDHO Hypertension Guidelines and Fact Sheet

https://hypertension.ca/guidelines/

https://cdho.org/factsheets/hypertension-in-adults/

**Challacombe Scale**

https://fgdpscotland.org.uk/wp-content/uploads/2018/09/Challacombe-Scale-oral-dryness-ENG.pdf

**Recommended Reading:Get Your Spit Together**

Available online www.amazon.ca


**Patient Perception of Health Risk Assessments During Routine Dental Visits**

96% of patients reported being comfortable discussing health-related risk factors during their dental visit; 4% reported being uncomfortable; overwhelming response was positive.

However, over ½ (53%) reported they did not receive any health risk assessments (HRAs) during their current visit.

Study authors concluded interventions need to focus on reducing dental practitioner perception that conducting any HRAs is beyond scope of practice and standardizing screening assessment for multiple risk factors.

**DiabetRisk Study (Spain)**

**1**,143 patients, 41 dental practices identified patients with undiagnosed diabetes or prediabetes during a dental visit with an accuracy of 96%

8% of patients were identified with undiagnosed diabetes or pre-diabetes

Patients with more severe periodontal disease were more likely to have prediabetes or diabetes.

## Self-evaluation of assessment protocols related to risk intervention

**Pop Quiz…**

**What's Your Score: _____ / 10**

**RISK INTERVENTION STRATEGIES**

**1. Medical History Update (**clinical resource handout)

On a scale of 1 – 10, how would you rate your general health at this time?

On a scale of 1 – 10, how would you rate your level of stress at this time?

Ona scale of 1 – 10, how would you rate your quality of sleep over the last month?

On a scale of 1 – 10, how closely do you feel the health of your mouth is to the health of the body?

**2. BP Readings Chairside**

The new American guidelines updated from 2003, have lowered the definition of high blood pressure with the objective of accomplishing earlier intervention

The updated version encompasses ½ of the population with the most profound impact among the younger population. The prevalence of high BP is predicted to triple in men under age 45 and double among women under 45.

**3. Chairside Saliva Testing**

*Measuring Resting Salivary Rate*

Retract the lower lip observing labial mucosa salivary production from minor accessory glands.

Droplets of saliva will begin to form at the orifices of the minor glands.

If the time taken for this to occur is more than 60 seconds, the resting flow rate is below normal.

> 60 seconds

= 30-60 seconds

< 30 seconds

**Intraoral Salivary Flow Evaluation Using the Challacombe Scale**

**Scoring**

1-3 Mild

4-6 Moderate

7-10 Severe

Notes:-

| | |
|---|---|
| ✓ | Dental mirror sticks to the patient's tongue |
| ✓ | Dental mirror sticks to the buccal mucosa |
| ✓ | No saliva pooling in the floor of the patient's mouth |
| ✓ | Saliva is frothy |
| ✓ | Patient's tongue shows generalized shortened papillae |
| ✓ | Altered gingival architecture (i.e., smooth) |
| ✓ | Patient's oral mucosa, especially the palate, appears glassy |
| ✓ | Tongue lobulated/fissured |
| ✓ | Patient has cervical caries on more than 2 teeth |
| ✓ | Debris sticks to teeth or palate |

**5 KEY Questions if you suspect Sjögren's Syndrome**

1. Do you have other dryness in your body? (i.e. skin, eyes)
2. Do you have overall marked fatigue?
3. Do you have joint pain?
4. Do you have any other autoimmune disease?
5. Do autoimmune diseases run in your family?

**Treatment Considerations:**

- Hydration throughout the day
- Chewing gum/pastilles with xylitol
- Remineralization toothpastes
- Salivary substitutes
- Effective oral hygiene and interval of care
- Avoidance of antihistamines, decongestants, and alcohol

**4. Salivary pH Chairside Assessment**

The xerostomic patient is compromised due to lack of buffering capabilities of saliva

- Healthy saliva should measure no lower than pH of 6.5
- Demineralization occurs below a pH of 5.5
- Elderly clients or those with exposed dentin need to know that root demineralization can occur when pH levels fall to 6.0

**5. Loupes (Magnification) and Illumination**

Your eyes are your most important clinical instrument and Investment. Without the use of magnifcation early changes in the oral mucosa will not be visible to the naked eye.

**6. Saving Lives**

**Oral and Oropharyngeal Cancer Screening Examination**

**Extraoral Examination of High Risk Anatomical Areas**

1. Submental
2. **Submandibular**
3. **Anterior cervical chain**
4. **Supraclavicular**
5. Occipital
6. Posterior auricular
7. Anterior auricular
8. Parotid
9. Sternocleidomastoid muscle
10. **Posterior superficial cervical chain**
11. Posterior cervical spinal nerve chain

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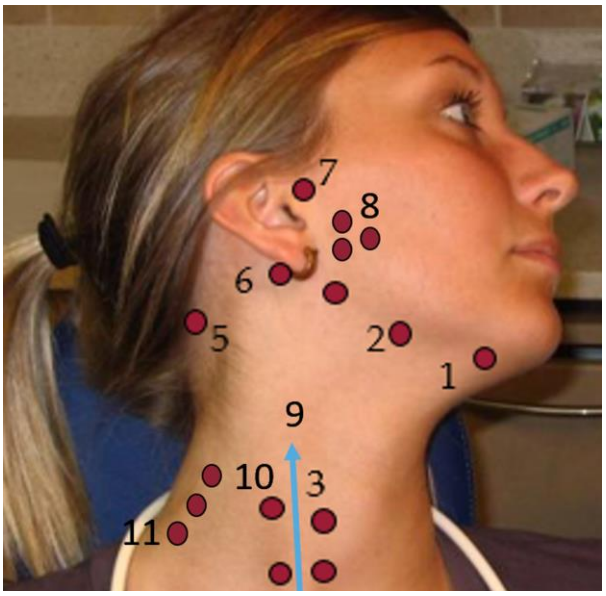
**Human papillomavirus vaccine: Canadian Immunization Guide**
https://www.canada.ca/en/public-health/services/publications/healthy-living/canadian-immunization-guide-part-4-active-vaccines/page-9-human-papillomavirus-vaccine.html

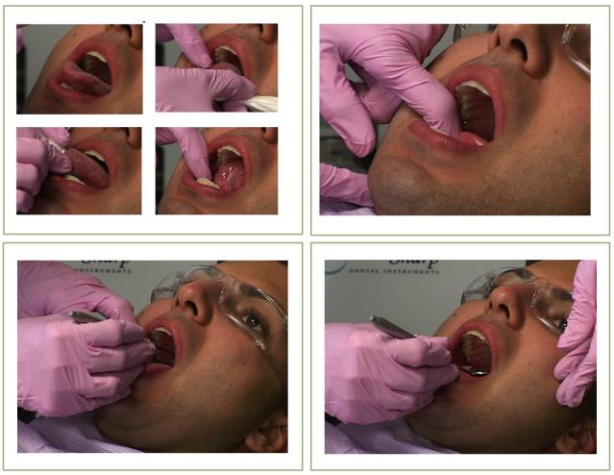
**Healthy Heart. Healthy Brain. The Personalized Path to Protect Your Memory, Prevent Heart Attacks and Strokes, and Avoid Chronic Illness**
Amy Doneen/Bradley Bale www.amazon.ca

**Get Your Spit Together** www.amazon.ca

**Life Interrupted: Dr. Dua's Survival Guide**
www.amazon.ca


**Intraoral Examination of High Risk Anatomical Areas**
Tongue, Floor of Mouth (FOM), Palatal and Oropharyngeal tissues



**The Subtle and Life-Saving Symptoms**

Continuous sore throat; persistent infection
Pain when swallowing or difficulty swallowing
Unilateral ear pain
Pain when chewing
Non-healing oral lesions
Bleeding in the mouth or throat
Hoarseness
A lump in the throat or the feeling that something is stuck in the throat
Continual lymphadenopathy
Unexplained weight loss
Slurred speech
Tongue that tracks to 1 side when stuck out
Asymmetry in tonsillar area
Persistent neck masses despite antibiotic therapy

**7. Do Your Patients Know What to Look For?**

www.checkyourmouth.org

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**Resources:**

HPV Vaccine Virtual Consultation with a Healthcare Professional https://www.gardasil9.ca/virtual-consultation/

## 8. Education is all it takes to prevent over 90% of future HPV cancers!



The 9-valent HPV vaccine is recommended for boys and girls in the school immunization program across the U.S.

Over 92% of future HPV-attributable cancers can be prevented with the vaccine

The HPV vaccination is recommended for males and females who have already had HPV-related disease. The decision to vaccinate at any age is a shared decision between the patient and the medical provider.

Prevalence in HPV oral infection 88% lower in those reporting at least one dose of HPV vaccine vs unvaccinated

Reduces recurrence of abnormal paps in woman who were previously treated for cervical squamous intraepithelial lesions; 75% reduction of recurrence of genital warts

More than 500 million doses of the HPV vaccine (Gardasil) have been administered worldwide (World Health Organization, 2022) since the introduction of the vaccine in 2006.

## 9. My appointment is so full! I don't have time to probe.

## 10. Are you still treating periodontal disease as a bacterial infection?

***A Patient for Life!***

*"It was accepted that a patient with gingivitis can revert to a state of health, but a periodontitis patient remains a periodontitis patient for life, even following successful therapy, and requires life-long supportive care to prevent recurrence of disease."*

### 1st Step: Mechanical Debridement and Delayed Bacterial Colonization

### Why we need to treat beyond mechanical debridement

Periodontal disease is a bacterially-initiated, infection-driven, host response-mediated inflammatory disease

*"The course of periodontal disease is marked by a discontinuous pattern of disease activity and inactivity showing exacerbation and remission of tissue destruction."*

The updated 2017 Periodontal Classification System has assisted in determining progression by identifying;

- Staging – indication of severity and distribution of pathologic damage; essentially the history of the disease
- Grading – identifies risk influence and rate of disease progression; attempt to predict future of the disease

The way in which the host responds to periodontal pathogens is impacted by many different factors; the threshold level of bacterial load successfully withstood varies greatly from patient to patient.

### What are the Primary Biomarkers of Periodontal Destruction?

- Hs CRP
- Active-matrix metalloproteinase (aMMP) was identified as the first primary biomarker for periodontal staging and grading by the European Federation of Periodontology (EFP) which has been implemented into the new classification of peri-implantitis
- Neutrophils

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Comprehensive reference listing for low-dose doxycycline available upon request.


- ***How do we measure?***

Current practice relies heavily on clinical parameters and radiographic interpretation of existing disease

Current evidence supports some individuals are more susceptible to develop periodontitis, more susceptible to develop progressive severe generalized periodontitis, less responsive to standard bacterial control principles for preventing and treating periodontitis, and theoretically more likely to have periodontitis adversely impact systemic diseases

### *How do we eradicate?*

Current practice relies heavily on clinical parameters and radiographic interpretation of existing disease

Reliable measurable markers of inflammation and tissue destruction would provide the necessary quantitative evaluation to mitigate risk of irreversible damage

### 2nd Step: Treating Host Response

### What do our guidelines suggest?

**Current JADA Evidence-Based Clinical Practice Guidelines**

Adding Low-dose Doxycycline to Scaling and Root Planing (SRP**) Increases Clinical Attachment Gain by 71%**

*"A panel of experts convened by the American Dental Association Council on Scientific Affairs presented an **evidence-based clinical practice guideline** on nonsurgical treatment of patients with chronic periodontitis by means of scaling and root planing (SRP) with or without adjuncts."*
JADA 146(7) http://jada.ada.org July 2015 p. 525-535 Table 4.

American Dental Association

Observation:

**The Council voted only in favor of two clinical recommendations as nonsurgical treatments for chronic periodontitis;**

- SRP (no adjuncts)
- SRP + subantimicrobial-dose doxycycline (SDD, Periostat)

THE JOURNAL OF THE AMERICAN DENTAL ASSOCIATION
J A D A

**Clinical recommendation statements from the American Dental Association Council on Scientific Affairs' Nonsurgical Treatment of Chronic Periodontitis Expert Panel.**

### Mechanism of Action: Low-Dose Doxycycline

Low dose doxycycline will reduce the over-production of collagenase (MMP-8, MMP-9, enzymes responsible for accelerated breakdown and destruction of collagen) and osteoclasts (bone cell responsible for the resorption of bone) that are present in overabundance during a chronic, prolonged & destructive inflammatory response.

Adding low-dose doxycycline to SRP increases clinical attachment gain by 71%. CRP levels have also been reduced with LDD. IL-6 levels reduced 32%. Why is this so critical?

Systemically, this exaggerated inflammatory response is common among inflammatory diseases such as periodontitis, cardiovascular disease and rheumatoid arthritis.

Chronic inflammatory burden increases risk for new inflammatory disease in consecutive anatomical sites

### Peri-Implantits

### Historical Treatment

An alarming increase in implant failures is being explored along with a strong prevalence of peri-implantitis occurring in 22-43% of implants placed

5 – 10% failure rate with highest rate amongst diabetics

Existing model for treating chronic periodontitis has been used for managing implant-associated infections;

- Placement of antimicrobials after localized debridement
- Regenerative treatments

**NOTES:**

Both treatments report little success with antimicrobials/debridement being largely ineffective

**Systemic Susceptibility**

Level of inflammation around an affected implant vs affected tooth with periodontitis demonstrated to be many times more severe 6

Substantial elevation in MMP-8 estimated 10-fold higher

Important to note that inflammatory markers studied for both periodontitis and peri-implantitis in oral fluids and serum demonstrated systemic inflammation

### Why Is All This SO Important?

Growing evidence supporting inflammatory host response is greater in peri-implantitis patient than periodontal patients

This knowledge is critical to effectively treat host response to mitigate risk of systemic disease or exacerbating existing conditions

### Incorporating Host Modulation into Clinical Practice

**Assessment:**

- Unresolved periodontitis in a systemically healthy patient
- Smokers with periodontitis
- Peri-implantitis
- Diabetics
- Patients who suffer from autoimmune disorders
- Cardiovascular disease
- Clients not responding to conventional treatment

**Dental Hygiene Diagnosis:**

- Stage II, III periodontitis

**Planning:**

- Imperative to both eliminate the bacteria and modulate the host following debridement
- Concept of packaged periodontal treatment plan including 3 – 9 months of low-dose doxycycline; convert into a procedure
- "Non-surgical approach and practice responsibility is to treat chronic periodontal disease which will impact your oral health and reduce your risk for overall disease as well."

**Implementation:**

- Substantivity of treatment is sustainable for a minimum of 3 months for both chronic and severe periodontitis
- 20 mg doxycycline hyclate twice daily as an adjunct following debridement

**Evaluation:**

- Re-evaluation performed at regular intervals i.e. at 3-month periodontal maintenance appointment assessing inflammatory resolution
- If bleeding sites still prevalent, maintain patient on 3-month regimen

### Communicating with Impact

### 1st Solution: Our Mindset

The biggest barrier is within us.

Our patients can't value what we won't or believe in something we don't. Plain and simple.

The biggest question to ponder is are we simply 'cleaning teeth or are we impacting lives?'

### 2nd Solution: Until the patient perceives a problem, they will not 'buy' into the solution

First of all, are we uncovering the information in our standard medical history update questions? (Familial history, risk factors, subjective symptoms, etc.)

Chronic inflammation connects systemic diseases. A 'condition' in one anatomical location has an effect that reaches far and wide (Does the patient understand the connection?)

**Resources:**

**Periodontal Classification Calculator**
PerioCalc App
https://drkotsakis.com

**References:**

**Resources:**

**Understanding Periodontitis**
https://www.philips.com/c-dam/b2c/category-pages/personal-care/dental-professionals/periodontitis/PatientProfiles_Perio_ChairsideGuide_Digital.pdf
**Your Periodontal Assessment and Treatment**
https://www.usa.philips.com/c-m-pe/dental-professionals/dental_indications/periodontitis#!=
**Dentistry IQ: Chairside Connection - How to discuss the oral-systemic connection with patients**
https://www.dentistryiq.com/dentistry/oral-systemic-health/video/14248274/chairside-connection-how-to-discuss-theoral-systemic-connection-with-patients
**Check Your Mouth™ Campaign**
www.checkyourmouth.org
**Check Your Mouth Tools/Practice Cards**
www.ocfstore.org
**TelScope Telehealth System**
www.hollandhealthcareinc.com
**Magnification/Loupes/Illumination**
www.orascoptic.com
**VoiceWorks (Voice controlled hands-free perio charting)**
www.oralscience.com
**Oral Science Periodontitis Protocol**
https://oralscience.com/en/protocols/periodontitis
**American Academy of Periodontology Periodontal Disease and Systemic Health**
http://www.perio.org/consumer/other-diseases
**Oral Systemic Link Resources for Healthcare Providers, Patients and Research**
www.oralsystemiclink.net
**CDHA Talking Points – Oral Systemic Link**
https://files.cdha.ca/profession/resources/FactSheet_WholeBody_final2.pdf
**Philips World Oral Health Day Infographics**
https://www.philips.com/c-dam/corporate/newscenter/global/standard/resources/healthcare/2021/world-oral-health-day/philips-wohd-infographic.pdf

Thank you to Oral Science for their continued support of education for the dental hygiene community and their dedicated team of professionals. For further information; https://oralscience.com/en/presentations/

If I may assist you any further in regard to this presentation, please contact me via email; jjones@jo-annejones.com Wishing you continued practice success!



*"Do you understand the treatment fully? Do you also understand what will happen if you choose not to accept the treatment?"*
Next step is patient engagement…ownership of the 'problem'

### 3rd Solution: Teamwork Messaging

STOP CLEANING TEETH!!
It is a dental hygiene appointment, it is a hygiene therapy appointment,
It is a Comprehensive Periodontal Therapy- CPT or Active Therapy – AT;
It's not just a "cleaning". It is an important part of the client's health and healing abilities. It impacts the immune system functionality. It impacts both the quality and quantity of their lives.

### 4th Solution: Breaking through the insurance driven mindset

Powerful and effective language and responses to frequently asked questions
Acknowledgment that insurance is a BENEFIT
Team collaboration and support for one another
Clear, non-conflicting information for the dental patient

*"Dental benefits were designed to assist a relatively healthy, disease-free mouth having had regular professional care and requiring minimal maintenance. The level of active disease and infection will not be fully assisted your dental benefit coverage; however your benefits will certainly help reduce your fee."*

*"Even though you have dental benefit assistance, some procedures may not be covered. Your level of benefit assistance is determined by the policy your employer has chosen for you. It's based on a group benefit plan and doesn't take your individual needs into consideration. The patient normally handles a portion of the cost of the treatment."*

*"I promise you that I would never base your dental needs and treatment on what your insurance covers."*

### 5th Solution: Communicating the Oral Systemic Link Powerfully

- First of all, the mouth is unique.
- Second of all, every bacteria, virus, toxin has access to the body's highway.
    - Lastly, what does this mean to YOU?


We must treat the host response to periodontal disease, or we are placing our patients at risk for systemic disease.
A mechanical approach is inadequate. Periodontal disease must be treated as inflammatory disease.
Bacteria are essential to initiating the local inflammatory response, however it is the host response that results in destruction both locally and systemically.
To continue to ignore the inflammatory component is setting up our patient for risk of systemic disease.
All chronic inflammatory disease is a consequence of unchecked or undiagnosed inflammation. The primary difference is anatomical inflammation.
Uncontrolled inflammation is responsible for tissue destruction. Not treating host response will place tx outcomes at a standstill.
Essential to employ an evidence-based medical, whole body health model.
Anything new, abnormal, or different that persists beyond 14 days always warrants further investigation. Don't assume! A life may depend on your decision.

# Medical History Update

**Patient Name:** _____ **Date:** _____

Recent research indicates a strong relationship between the mouth and the body. Since we now know how closely they are related, we are going to be asking you some questions about your family history and your overall health that we may not have asked you about before. This additional information will assist us in providing the best possible care to maintain your oral health and overall wellness.

1. Any changes in your health since your last dental visit? ☐ Yes ☐ No If yes, please list:

_____

2. What medications are you taking? _____

_____

3. Any changes in medication dosage or medications? ☐ Yes ☐ No If yes, please list:

_____

_____

4. What over the counter or 'herbal/natural' supplements are you taking on a regular basis? Please list:

_____

5. Do you smoke, use vaping products, cannabis products or any other smokeless tobacco products? ☐ Yes ☐ No
if yes, please list: _____

6. Are you taking any bisphosphonates in the past or presently? Yes ☐ No ☐ If yes, please provide details:

_____

7. Do you have a persistent sore throat, hoarseness, earache or feeling of something being caught in your throat?
☐ Yes ☐ No If yes, please provide details: _____

8. Have you ever been diagnosed with a high-risk strain HPV infection? Yes ☐ No ☐

9. Have you had the HPV vaccination? Yes ☐ No ☐ If yes, how many years ago?

10. Have you had any surgery or been hospitalized since your last visit? Yes ☐ No ☐
If yes, please explain: _____

11. Are you being treated for any medical problem presently? Yes ☐ No ☐
If yes, please explain: _____

12. Have you ever taken antibiotics prior to having your teeth cleaned or before dental work? Yes ☐ No ☐
If yes, please explain: _____

13. Any allergies to drugs, food, metal or latex? Yes ☐ No ☐
If yes, please list: _____

14. History of illness or disease in family?
If yes, please explain: _____

15. Were you diagnosed with COVID? Hospitalized Yes No If, yes, please provide details:

16. Have you been diagnosed with osteoarthritis or rheumatoid arthritis? Yes ☐ No ☐

17. Have you experienced increased joint pain or decrease in mobility? Yes ☐ No ☐

18. Have you been diagnosed with diabetes? ☐ Type I ☐ Type II ☐ Pre-diabetes
☐ Diet-controlled ☐ Medication controlled Under control: Yes ☐ No ☐

19. Does your mouth frequently feel dry? Yes ☐ No ☐

20. Have you had any heart problems or a knee, hip or prosthetic joint replacement? Yes ☐ No ☐
If yes, provide details: _____

21. Have you had a bone mineral density test? Yes ☐ No ☐ Results: _____

22. Female clients; Are you pregnant? ☐ Yes ☐ No

23. On a scale of 1 to 10 (10 being highest), how would you rate your general health at this time? _____

24. How would you rate your level of stress presently? Low ☐ Moderate ☐ High ☐

25. On a scale of 1 to 10 (10 being highest), how closely related is the health of your mouth to your overall health in your opinion?
_____

Date:

Client Name:

Our findings today reveal the presence of an active inflammatory infection in your mouth referred to as Periodontal Disease and is classified as follows:

❑ **Gingivitis** ❑ **Mild Periodontal Disease** ❑ **Moderate Periodontal Disease** ❑ **Severe Periodontal Disease**

Periodontal Disease has different stages which are often silent and painless, however if left untreated will involve further destruction of bone support and teeth. Science also confirms that untreated chronic oral inflammation is associated with many other inflammatory diseases such as diabetes, heart disease, stroke, Alzheimer's and some cancers. In keeping with our practice's philosophy of dedication to prevention and early diagnosis, we recommend the following course of non-surgical therapy to eliminate infection and oral inflammation:

| Proposed Treatment | Procedure | Time | Fee |
|---|---|---|---|
| **First Visit** | | | **$** |
| **Second Visit** | | | **$** |
| **Third Visit** | | | **$** |
| **Fourth Visit** | | | **$** |
| **Evaluation** | | | **$** |
| **Maintenance/Care Interval** | | | **$** |

## Informed Consent:

I have been advised that I have an active infection in my mouth. If I choose to decline treatment I understand that the infection will continue to be active and that destruction to soft tissues and bone support is unpredictable and may also be associated with placing me at greater risk for inflammatory disease in other areas of my body. If I choose to accept treatment I understand that treatment outcomes may be affected by genetics, risk factors, the completion of my treatment, adherence to home care and any prescribed medications and regular preventive care at the suggested interval. I further understand that a non-surgical approach to the infection has been suggested at this time.

☐ **I accept the recommended treatment** _____ _____

Client Signature DDS/RDH

☐ **I decline the recommended treatment** _____ _____

Client Signature DDS/RDH