

# *Oral Health & Chronic Disease: Bridging the Gap through Interprofessional Collaboration*

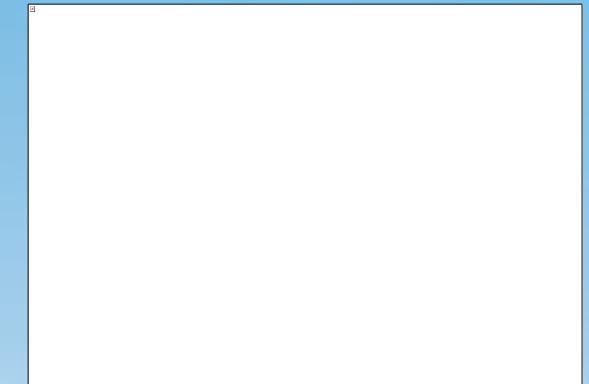
Bridget Fitzhugh, MSDH, RDH, FADHA  
Jacqueline McEuen, MSN, BS, BSN, RN

# Continuing Education Credits

In support of improving patient care, this activity has been planned and implemented by Arkansas Oral Health Coalition and Moses/Weitzman Health System, Inc. and its Weitzman Institute and is jointly accredited by the Accreditation Council for Continuing Medical Education (ACCME), the Accreditation Council for Pharmacy Education (ACPE), and the American Nurses Credentialing Center (ANCC), to provide continuing education for the healthcare team.

This series is intended for Dentists, Nurses, Nurse Practitioners, Pharmacists, Physicians, Physician Assistants, Registered Dietitians, and Social Workers.

Please complete the survey and claim your post-session certificate on the Weitzman Education Platform after today's session. **Please note:** Pharmacists must claim credits within two week's following today's session or we will not be able to award ACPE credits.



# Disclosures

- With respect to the following presentation, there has been no relevant (direct or indirect) financial relationship between speakers (or other activity planners) and any ineligible company in the past 24 months which would be considered a relevant financial relationship.
- The views expressed in this presentation are those of the speakers and may not reflect official policy of Moses/Weitzman Health System.
- We are obligated to disclose any products which are off-label, unlabeled, experimental, and/or under investigation (not FDA approved) and any limitations on the information that are presented, such as data that are preliminary or that represent ongoing research, interim analyses, and/or unsupported opinion.

# *Conflict of Interest*

---

- We have no relevant financial relationships or conflicts of interest to disclose related to the content of this presentation. All information presented is based on current evidence, research, and professional experience, with the primary objective of supporting the educational goals of the audience.

# *Objectives*

- Describe the oral-systemic connections with chronic diseases, including cardiac disease, diabetes, and respiratory conditions.
- Explain how poor oral health can contribute to the risk, severity, or complications of chronic diseases.
- Analyze the impact of poor oral health on overall health outcomes.
- Identify strategies and opportunities to promote patient and community oral health education.
- Demonstrate ways to strengthen interprofessional relationships and apply communication strategies to bridge gaps in care.
- Support and advocate for public health initiatives, including ANOHC and the Arkansas Oral Health Coalition, that aim to reduce the burden of chronic disease through improved oral health.



—



# *Health Concern*

Worldwide public health problem

Periodontal disease ranked 6th most prevalent health condition

Highly prevalent chronic inflammatory disease of the tooth supporting structures, linked to a wide range of common medical conditions.

Intersection of dentistry and medicine

# *Bi-directional Relationship*

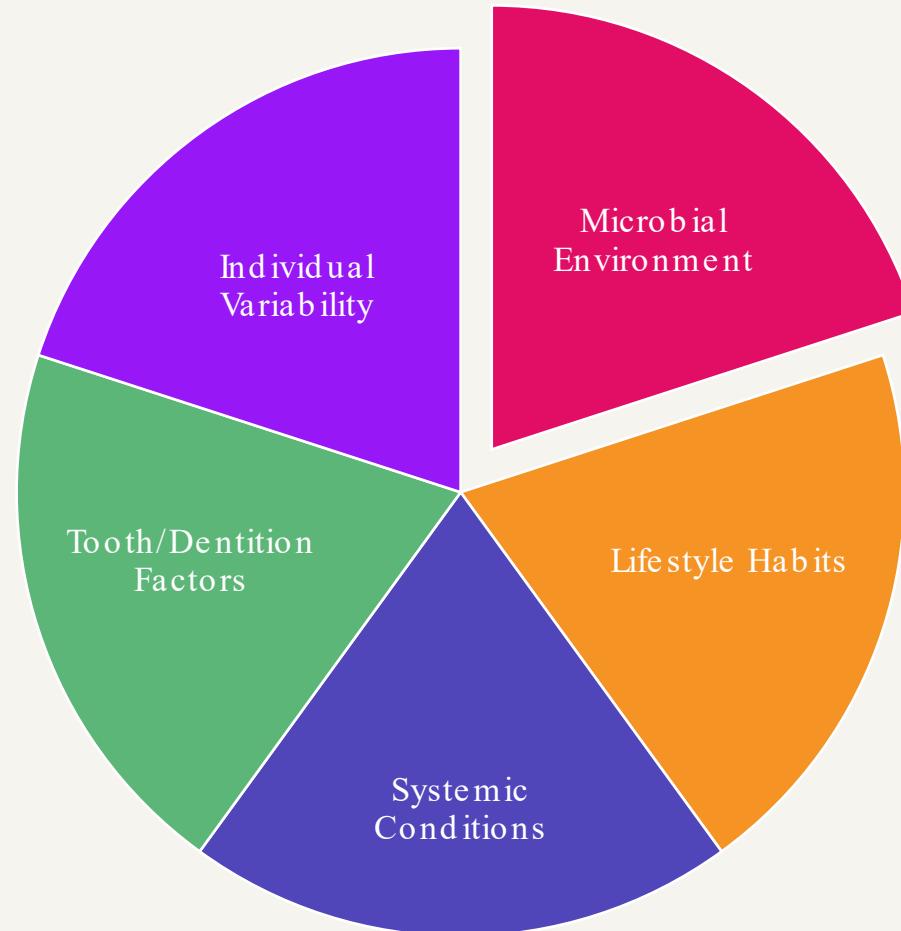


Systemic diseases may increase the likelihood of periodontal disease

Periodontal disease worsens systemic conditions

Oral infections may have an adverse effect on systemic health

# *Complex Inflammatory Disease*



# *Oral- Systemic Connections*

---

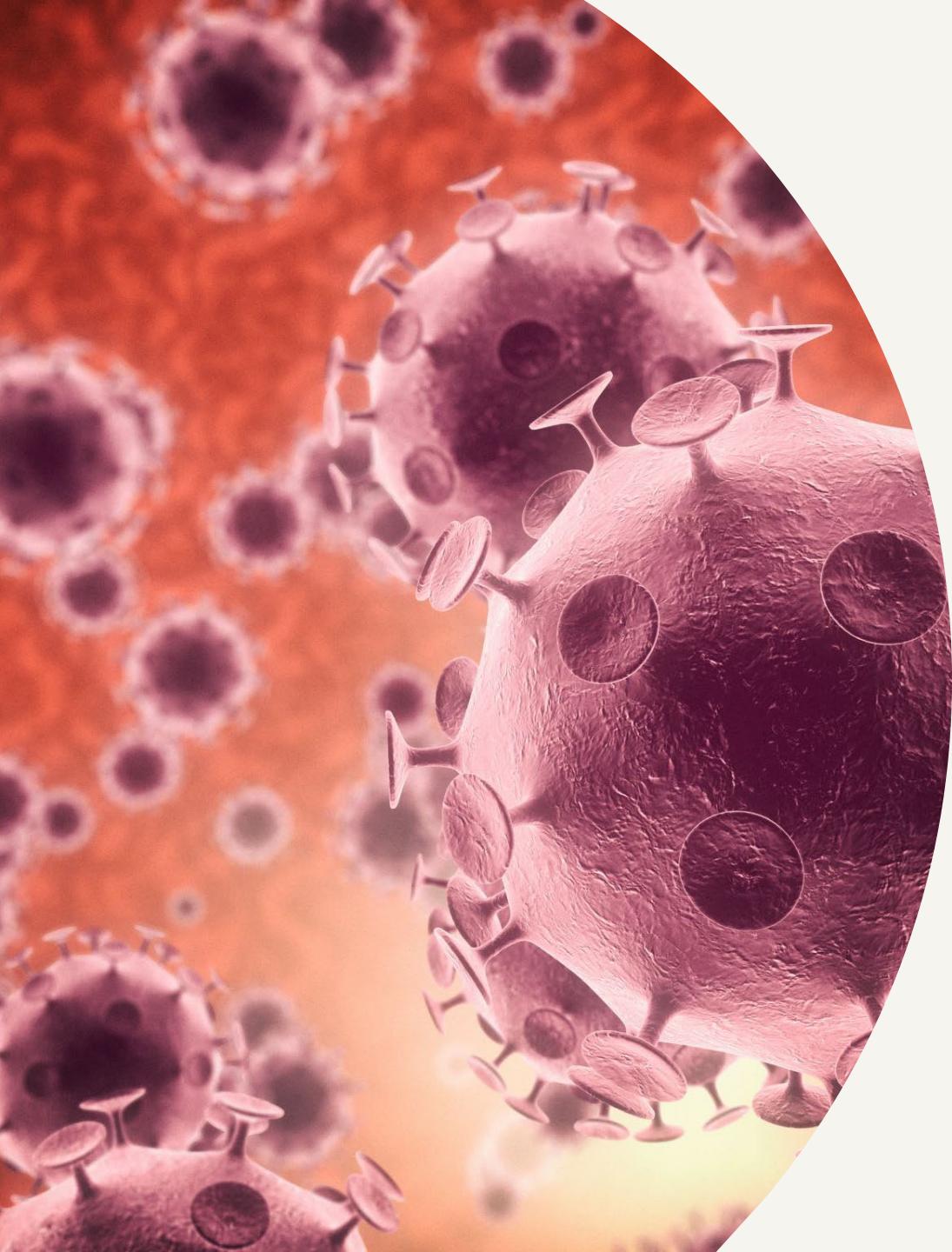
Metastatic infection

---

Inflammation

---

Immune response



# *Host Response*

---

- Periodontal disease begins with bacterial colonization
- Uncontrolled inflammation drives tissue destruction
- Bacteria start the process, but the host's response causes progression

# *Global Disease Burden*

---



- Global burden on periodontal disease increased significantly in a twenty-year time span.
- Individuals at risk:
  - Tooth loss
  - Edentulism
  - Masticatory dysfunction
  - Nutrition quality
  - Self-esteem
  - Socio-economic impacts

(Tonetti et al., 2017)

# *The Role of Periodontitis on Systemic Diseases*

Periodontal disease, once seen only as a local inflammatory condition, is now linked to systemic diseases.

(Kalhan et al., 2022; Tonetti et al., 2017)

Atherosclerotic Cardiovascular Disease (ACVD)

Adverse Pregnancy Outcomes

Diabetes Mellitus

Respiratory Conditions

Pneumonia

Chronic Kidney Disease

Rheumatoid Arthritis

Cognitive Impairment

Obesity

Metabolic Syndrome

# *Atherosclerotic Cardiovascular Disease (ACVD)*

Group of heart  
or vascular  
diseases  
including:

- Angina, myocardial infarction, stroke, transient ischemic attack (TIA), and peripheral artery disease

Atherosclerosis

- Process characterized by thickening of arterial walls
- Atheroma (arterial plaque) is fatty deposit in lining of artery

# *Dental Biofilms as Sources of Infection*

Periodontal pathogens from subgingival plaque biofilm enter bloodstream, activate inflammatory response

- Facilitates atheroma formation and exacerbation



Bacteria from periodontal lesions may stimulate inflammatory responses in sites distant from oral cavity

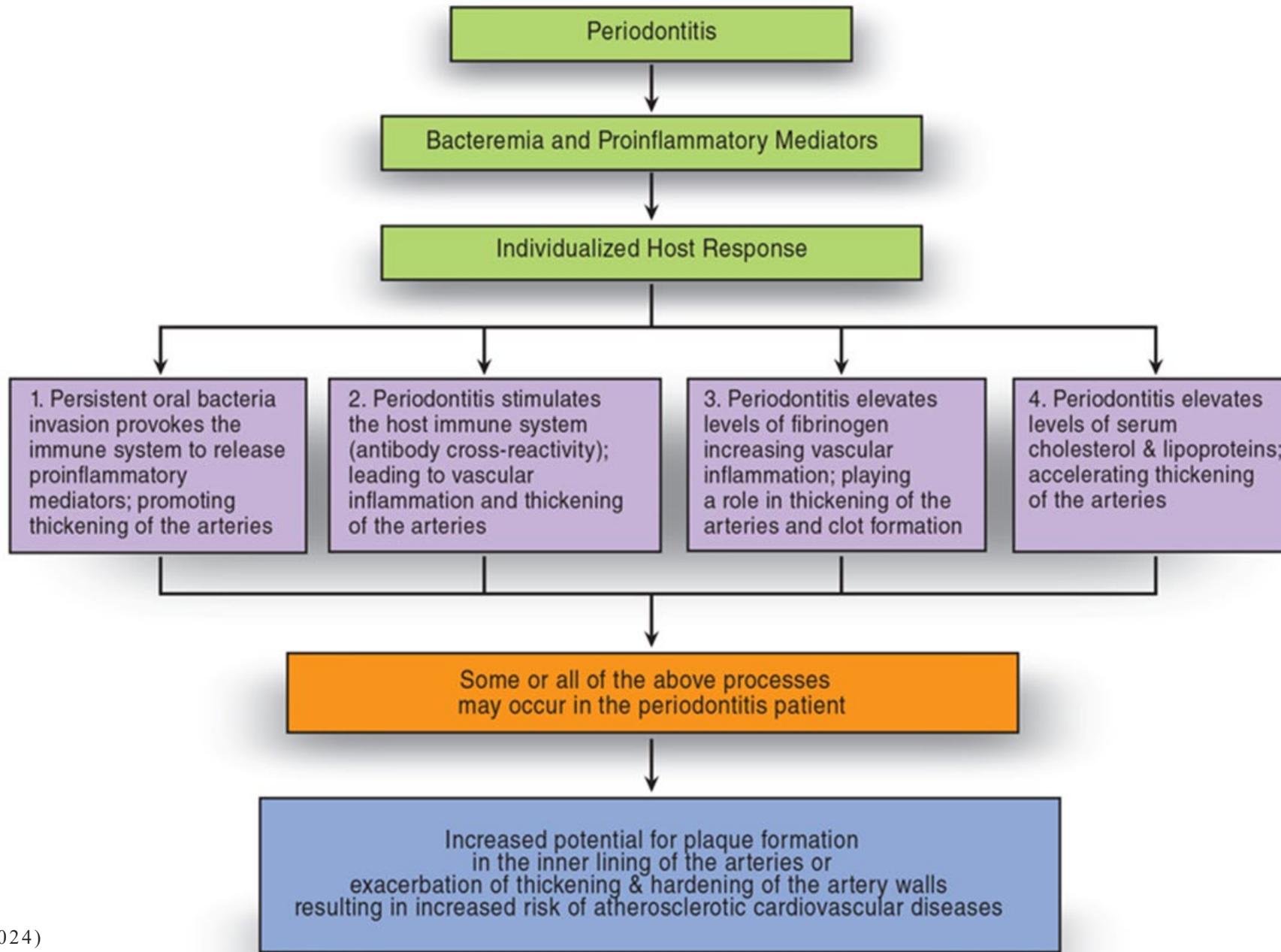
# *Periodontal Lesions May Heighten Systemic Inflammation*

## C-reactive protein (CRP)

- Special type of plasma protein
- Present during episodes of acute inflammation

Evidence suggests inflammation plays important role in onset and progression of atherosclerosis and cardiovascular disease

- Patients suffering from any type of inflammatory disorder potentially at risk of developing atheromatous lesions



# *Implications for Dental Practice*



Well designed research studies needed to clarify associations of poor periodontal health on ACVD



Educate patients on modifiable life style risk factors



Collaborate with appropriate specialists



Refer patients with other known risk factors for ACVD for physical if not seen by physician within last year

# *Diabetes*

Chronic life long disorder in which body fails to either:

- Produce enough of insulin
- Properly use insulin at end-target organ level

Major systemic risk factor periodontitis

Contributes to hyperinflammatory response

Two-way relationship

# *Undiagnosed or Poorly Controlled Diabetes*

Periodontal health declines as blood sugar levels climb

Periodontal attachment loss more common due to host  
immuno inflammatory response

Wound healing and response to surgical and nonsurgical  
periodontal therapy adversely affected

Less favorable long-term response to treatment

# *Undiagnosed or Poorly Controlled Diabetes (cont.)*

Altered  
hyperinflammatory  
response to infection

- Primarily drives intensity of periodontal destruction

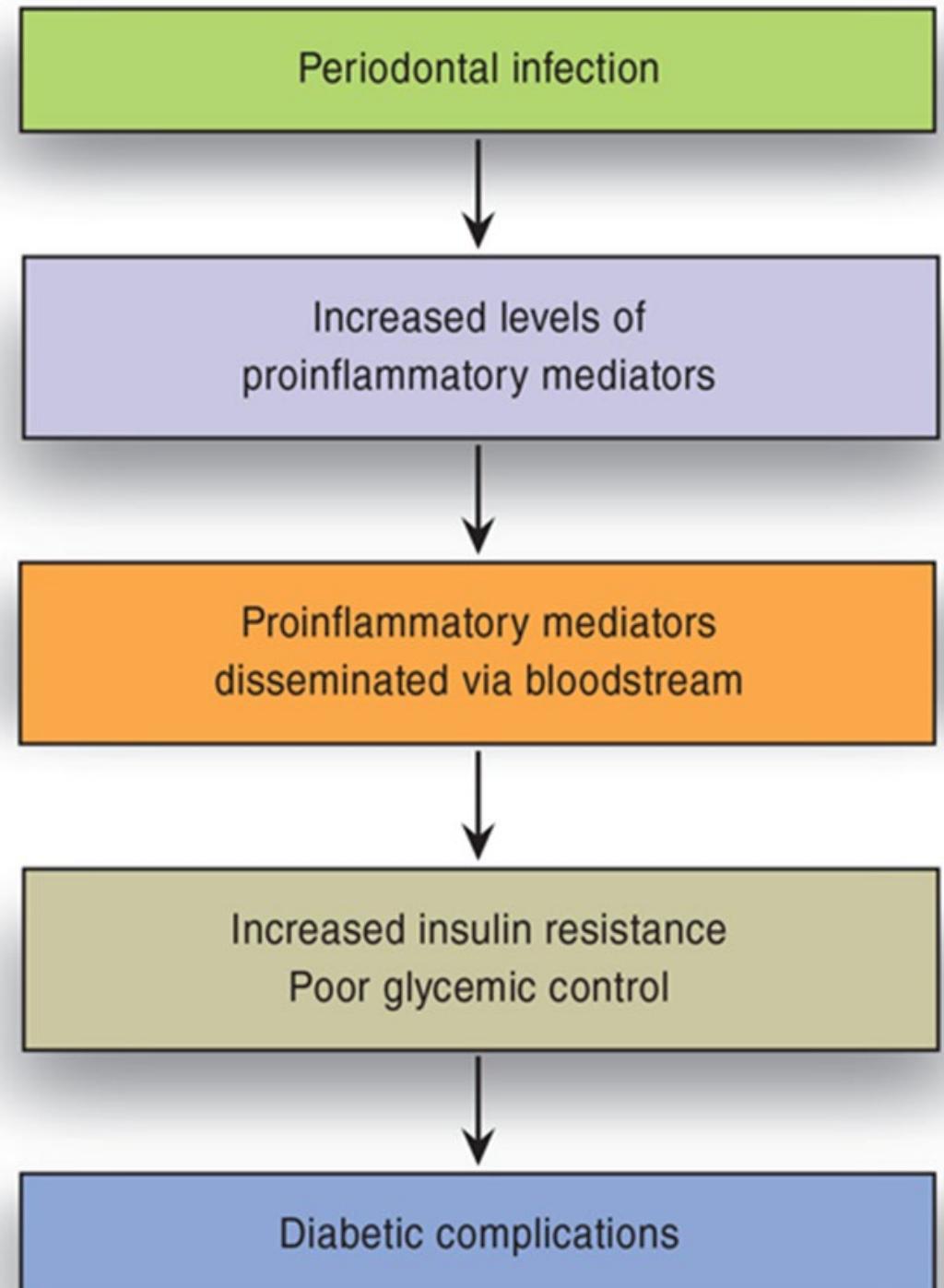
Imbalanced bone  
destruction and  
repair

- May result from uncoupling of activities of osteoblasts and osteoclasts

# Diabetes

---

(Gehrig & Shin, 2024)



# Respiratory Conditions

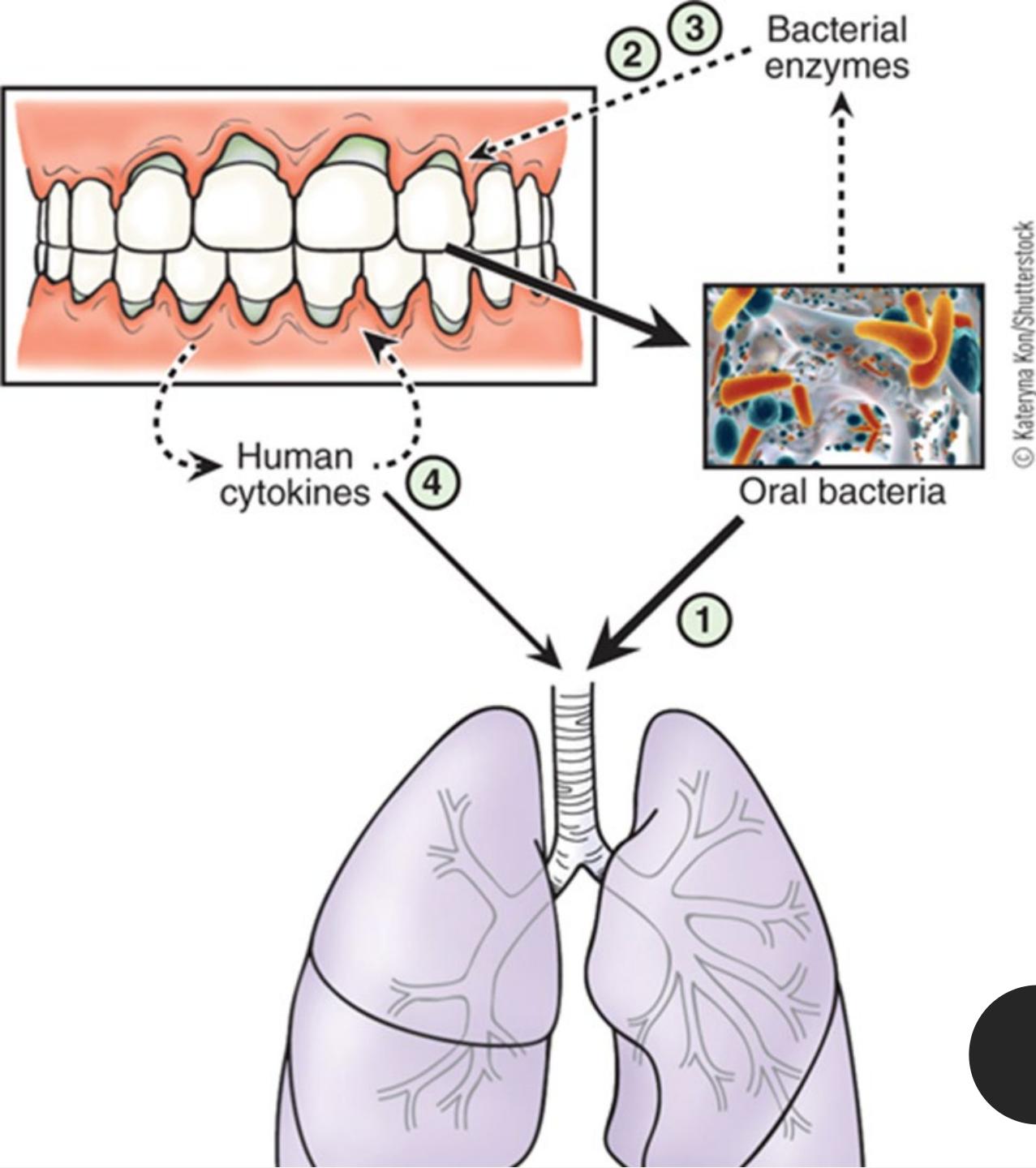
Direct inhalation

Enzyme release damaging oral mucosa

Oral bacterial enzymes reducing protective salivary pellicle

Salivary cytokines altering respiratory epithelium

(Gehrig & Shin, 2024; Isola et al., 2023)



# Respiratory Conditions (cont.)

Periodontal  
disease  
doubles the  
risk of COPD

Poor oral  
hygiene raises  
pneumonia  
risk and  
mortality

Stroke  
survivors face  
higher  
aspiration  
pneumonia  
risk

Oral neglect  
linked to  
infectious &  
cardiovascular  
complications

# *Oral Health Related Quality of Life (OHRQoL)*



## Quality of Life

“An individual’s perception of their position in life in the context of the culture and value systems in which they live and in relation to the goals, expectations, standards and concern” (WHO).

(Wong et al., 2021)



## Health

“State of complete physical, mental and social well-being and not merely the absence of disease” (WHO).

# *Oral Health Related Quality of Life (OHRQoL)*

(Wong et al., 2021)

## OHRQoL

- The subjective experience of oral health as a combination of physical, psychological and social aspects of the oral cavity.

## Paradigm Shift

- Treatment-centric approach to a patient-centric approach to provide a more holistic model of care for the patients.

*Identify opportunities to promote patient and community education*

---



# *Patient & Community Education*



## Measurement

Certain educational materials unavailable

Availability of educational materials only in a paper format

Lower number of materials for patient education

Inadequate methods

Longer time required for delivering health education

## Methods/Materials

High processing time due to inconsistent methods

Lack of planning

Poor prioritization

No standardized patient education materials outlined

Changing schedules of HCPs

## Human

High HCP turnover rate

Insufficient number of HCPs trained for patient education

Lack of training regarding patient education and its importance

Lack of experience in patient education

Very limited time availability for adequate patient education

## Machine

No electronic methods available for patient education  
Patient education databases not incorporated into HER  
Insufficient operational capacity of patient education databases  
Inadequate patient enrollment in patient portal

## Environment

Patients canceling from inclement weather  
Appointments were solely for discussing patient education related questions  
Specific illnesses causes spikes in usage of particular material rather than focusing on overall education

## Final Outcome/Problem

Lack of skills in imparting patient education  
Inadequate or absent patient education practices  
Limited and insufficient patient education

# SHARE WHAT YOU KNOW



# *Interprofessional Collaboration*



Healthcare workers from different professions work together to deliver high-quality patient-centered care

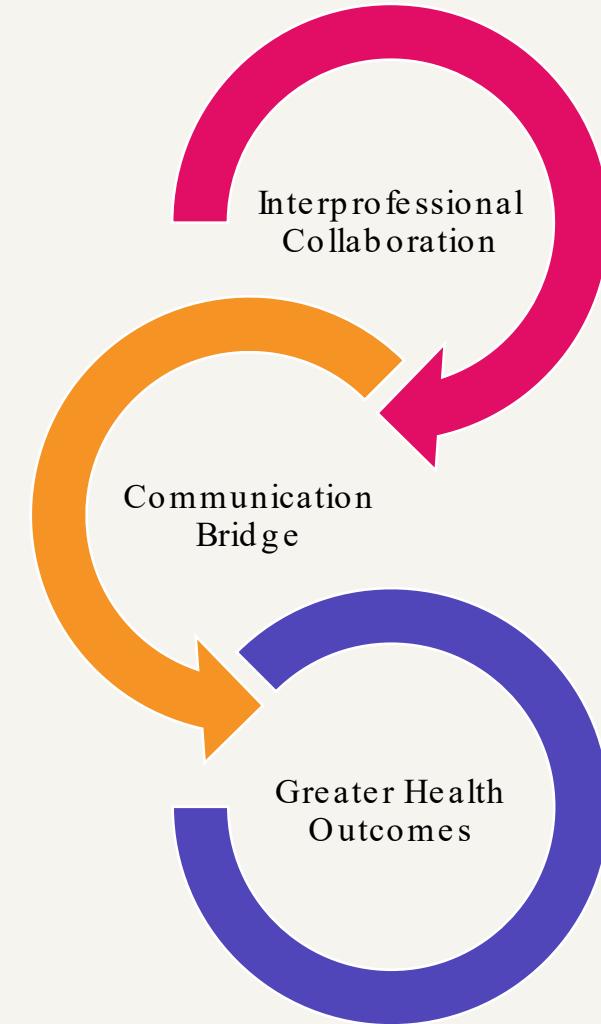


Dental team is well positioned to screen for systemic diseases such as diabetes



Closer collaboration with other health care professions make it easier to educate patients about the relationship between disease and periodontitis

# *Interprofessional Relationships – Bridging Gap in Communication*





# *How to Bridge the Gap*

---

- Shared Goals
- Understanding Roles and Expertise
- Effective Communication Strategies
- Building Mutual Respect and Trust

(Gajendra & Psoter, 2025; Mills et al., 2023)

# *Supporting Public Health Initiatives*



*ANOHC*



# *American Network of Oral Health Coalitions*

---

The American Network of Oral Health Coalitions (ANOHC) is a network of 35 State Oral Health Coalitions that advocate for 294 million Americans.

---

Arkansas is a state that is one of the 35. Hopefully, you know our title since you are at our conference, but it is called the Arkansas Oral health Coalition.

---

The oral health coalitions promote life long oral health by shaping policy, promoting prevention and educating the public.

# *Healthy People* 2030

- Social Determinants of Health:
  - Economic Stability
  - Education Access and Quality
  - Health Care Access and Quality
  - Neighborhood and Built Environment
  - Social and Community Context



*Healthy People 2030 focuses on reducing tooth decay and other oral health conditions and helping people get oral health care services.*

#### Related Objectives

(CDC, 2024)

#### Oral Health Conditions-General:

- Increase the number of oral and pharyngeal cancers detected at the earliest stage—OH-07—Baseline Only
- Reduce the proportion of adults with active or untreated tooth decay—OH-03—Improving
- Increase use of the oral health care system—OH-08—Target met or exceeded

#### Adolescents

- Reduce the proportion of children and adolescents with active and untreated tooth decay—OH-02—Improving
- Reduce the proportion of children and adolescents with lifetime tooth decay—OH-01—Little or no detectable change

# *Healthy People 2030 Objectives for Oral Health Cont.*

## Health Care Access and Quality

- Increase the proportion of people with dental insurance—AHS-02 Target met or exceeded
- Reduce the proportion of people who can't get the dental care they need when they need it.--AHS-05 Target met or exceeded

## Health Policy

- Increase the proportion of people whose water systems have the recommended amount of fluoride—OH-11 Baseline Only

## Nutrition and Healthy Eating

- Reduce consumption of added sugars by people aged 2 years and over—NW-10 Little or no detectable change

# *Healthy People 2030*

## *Cont.*

### Older Adults

- Reduce the proportion of older adults with untreated root surface decay—OH-04 Target met or exceeded
- Reduce the proportion of adults aged 45 years and over who have lost all their teeth—OH-05 Getting Worse
- Reduce the proportion of adults aged 45 years and over with moderate and severe periodontitis—OH-06 Baseline Only

### Preventative Care

- Increase the proportion of low-income youth who have a preventative dental visit—OH-09 Getting Worse

# *Healthy People 2030*

## *Cont.*

### Preventive Care Cont.

- Increase the proportion of children and adolescents who have dental sealants on 1 or more molars—OH-10  
Getting Worse

### Public Health Infrastructure

- Increase the number of states and DC that have an oral and craniofacial health surveillance system—OH-D01  
Developmental



—



# References

ANOHC. (2025). ANOHC. <https://anohc.org/>

Bhattad, P. B., & Pacifico, L. (2022). Empowering Patients: Promoting Patient Education and Health Literacy. *Cureus*, 14(7), e27336. <https://doi.org/10.7759/cureus.27336>

CDC. (2024, May 23). Healthy People 2030. Oral Health. <https://www.cdc.gov/oral-health/php/healthy-people-2030/index.html>

Gajendra, S., & Psoter, W. (2025). The Importance of Interprofessional Dental Care in the Community in the United States. *JDR Clinical & Translational Research*, 10(1\_suppl), 17S-24S. <https://doi.org/10.1177/23800844251328677>

Gehrig, J. S., & Shin, D. E. (2024). Foundations of Periodontics for Dental Hygienists (6th ed.). Jones & Bartlett Learning.

Isola, G., Santonocito, S., Lupi, S. M., Polizzi, A., Sclafani, R., Patini, R., & Marchetti, E. (2023). Periodontal Health and Disease in the Context of Systemic Diseases. *Mediators of Inflammation*, 2023(1), 9720947. <https://doi.org/10.1155/2023/9720947>

Kalhan, A. C., Wong, M. L., Allen, F., & Gao, X. (2022). Periodontal disease and systemic health: An update for medical practitioners. *Annals of the Academy of Medicine, Singapore*, 51(9), 567–574. <https://doi.org/10.47102/annals-acadmedsg.2021503>

Mills, A., Berlin-Broner, Y., & Levin, L. (2023). Improving Patient Well-Being as a Broader Perspective in Dentistry. *International Dental Journal*, 73(6), 785–792. <https://doi.org/10.1016/j.identj.2023.05.005>

Tonetti, M. S., Jepsen, S., Jin, L., & Otomo-Corgel, J. (2017). Impact of the global burden of periodontal diseases on health, nutrition and wellbeing of mankind: A call for global action. *Journal of Clinical Periodontology*, 44(5), 456–462. <https://doi.org/10.1111/jcpe.12732>

Villoria, G. E. M., Fischer, R. G., Tinoco, E. M. B., Meyle, J., & Loos, B. G. (2024). Periodontal disease: A systemic condition. *Periodontology 2000*, 96(1), 7–19. <https://doi.org/10.1111/prd.12616>

What Is Active Listening? (2025). CCL. <https://www.ccl.org/articles/leading-effectively-articles/coaching-others-use-active-listening-skills/>

Wong, L. B., Yap, A. U., & Allen, P. F. (2021). Periodontal disease and quality of life: Umbrella review of systematic reviews. *Journal of Periodontal Research*, 56(1), 1–17. <https://doi.org/10.1111/jre.12805>