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| **Name:** |
| India Martin |
| **Group:** |
| 10A-2 |
| **Pathology Question:** |
| How do caries progress and how does xerostomia affect this process? |
| **Report:** |
| Cause:* *Streptococcus mutans* (Initiation), *Lactobacilli* (Progression)

What happens:* Acid production and biofilm aggregation
	+ Biofilm composed of bacteria
	+ Biofilm enhances carogenicity by protecting from host defenses
* Bacteria breakdown carbohydrates producing acid biproduct
* Greater biofilm leads to greater acid production
* Enamel demineralizes at pH 5.5 and less
* Repeated cycles of acid production without removal aids in caries progression

Protecting factors:* Mechanical removal (brushing, flossing, etc.), Diet (clean crunchy foods (carrots), water), Fluoride, Salivary flow

Saliva:* Fluoride content in saliva
* Rate of flow
	+ Increased rate = increased bacterial clearance
* Contains agents that help neutralize the acid produced by bacteria
	+ Sodium bicarbonate, Phosphates, Sialin
* Re-mineralizing agents
	+ Hydroxyapatite, Fluorapatite, Calcium ions, Phosphate ions, Proline, Statherins
* Antimicrobial properties

Xerostomia (Reduction in saliva):* Increased bacterial adherence
* Less protective factors
	+ Reduction of mineralizing agents
	+ Reduction of buffer 🡪 Increased acidity of oral environment
* Reduction of bacterial and carbohydrate clearance via salivary flow rate
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| **References:** |
| Rathee M, Sapra A. Dental Caries. [Updated 2020 Jun 3]. In: StatPearls [Internet]. Treasure Island (FL): StatPearls Publishing; 2020 Jan-. Available from: <https://www.ncbi.nlm.nih.gov/books/NBK551699/>Su N, Marek CL, Ching V, Grushka M. Caries prevention for patients with dry mouth. J Can Dent Assoc. 2011;77:b85. PMID: 21774875.Lagerlöf F, Oliveby A. Caries-protective factors in saliva. Adv Dent Res. 1994 Jul;8(2):229-38. doi: 10.1177/08959374940080021601. PMID: 7865081. |