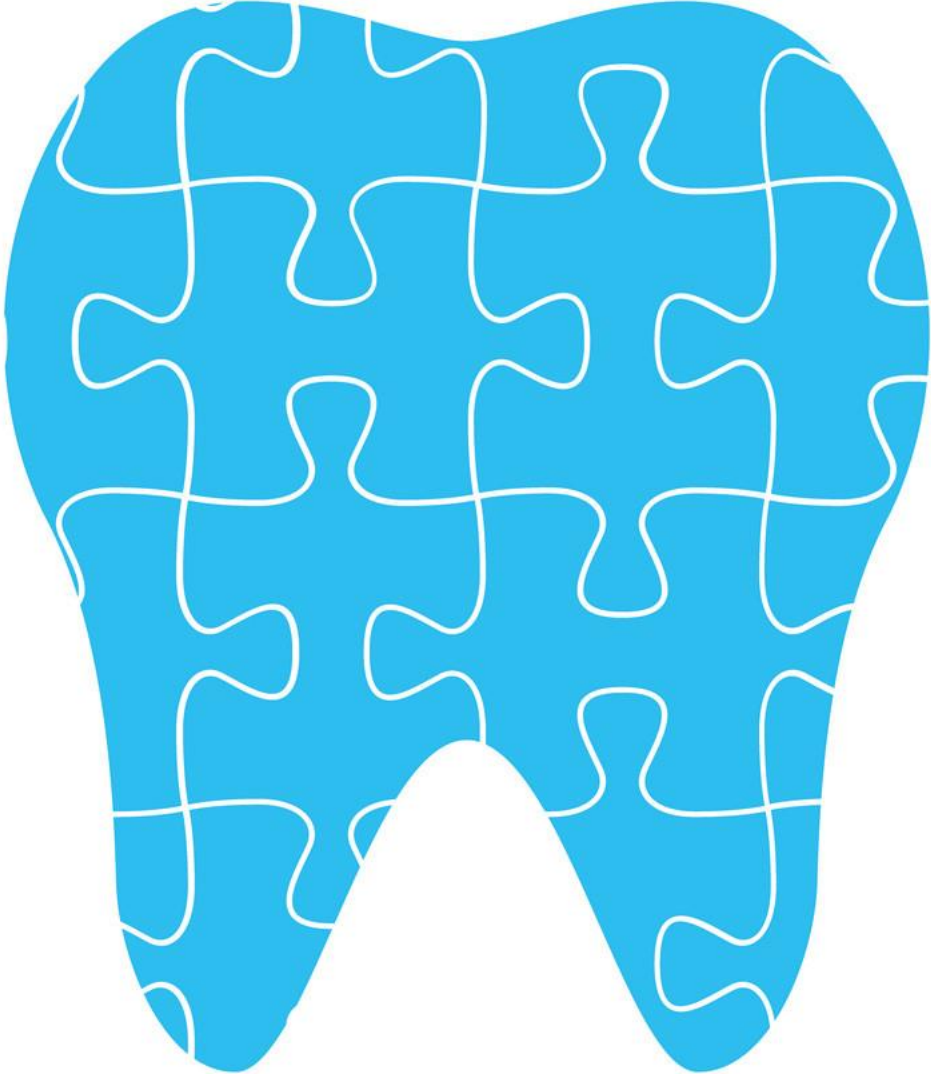




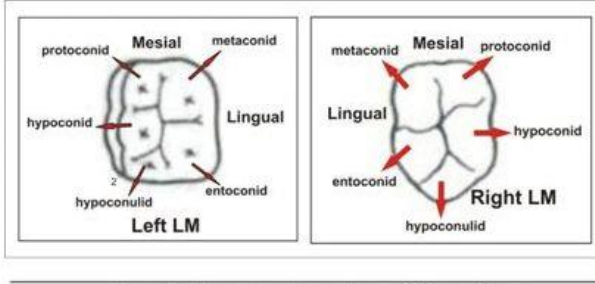
Lab session 3

How to perform a dental analysis
(indicators of Health & Stress)

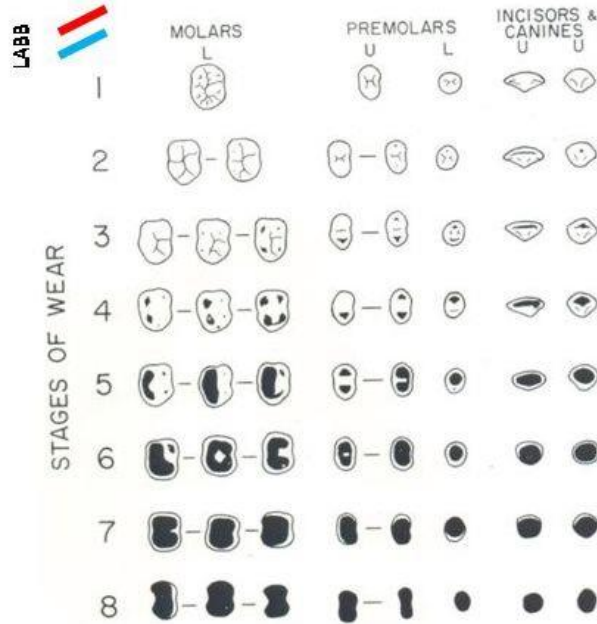








Dental wear's classification



495 Smith (1984)

Molars	Premolars	Incisors and canines
0. Missing or cannot be coded 1. Unworn to polished or small facets (no dentin exposure) 2. Moderate cusp removal (blunting). Thinly enamelled teeth (human deciduous molars, chimpanzee molars) may show cusp tip dentin but human permanent molars show no more than one or two pinpoint exposures 3. Full cusp removal and/or some dentin exposure, pinpoint to moderate 4. Several large dentin exposures, still discrete 5. Two dentinal areas coalesced 6. Three dentinal areas coalesced, or four coalesced with enamel island 7. Dentin exposed on entire surface, enamel rim largely intact 8. Severe loss of crown height, breakdown of enamel rim; crown surface takes on shape of roots	0. Missing or cannot be coded 1. Unworn to polished or small facets (no dentin exposure) 2. Moderate cusp removal (blunting) 3. Full cusp removal and/or moderate dentin patches 4. At least one large dentin exposure on one cusp 5. Two large dentin areas (may be slight coalescence) 6. Dentinal areas coalesced, enamel rim still complete 7. Full dentin exposure, loss of rim on at least one side 8. Severe loss of crown height; crown surface takes on shape of roots	0. Missing or cannot be coded 1. Unworn to polished or small facets (no dentin exposure) 2. Point or hairline of dentin exposure 3. Dentin line of distinct thickness 4. Moderate dentin exposure no longer resembling a line 5. Large dentin area with enamel rim complete 6. Large dentin area with enamel rim lost on one side or very thin enamel only 7. Enamel rim lost on two sides or small remnants of enamel remain 8. Complete loss of crown, no enamel remaining; crown surface takes on shape of roots

1. Dental wear (Smith 1984)





2. Calculus

- Presence / absence
- Severity : light, moderate & heavy
- Location : which tooth, which surface, crown & roots
- Sampling (next lab session)



- Frequency
 1. per type of tooth
 2. per individual (difference regarding age/sex)





3. Dental Caries (Hillson 2001)

	18	17	16	15	14	13	12	11	21	22	23	24	25	26	27	28	
1																	1. Tooth presence, absence, carious
2																	2. Occlusal surface caries (fissure, groove, fossa sites)
3																	3. Pit caries
4																	4. Occlusal attrition score
5																	5. Occlusal attrition facet dentine caries
6																	6. Attrition facet enamel rim chipping/caries
7																	7. Mesial attrition score
8																	8. Mesial contact area caries
9																	9. Mesial root surface caries
10																	10. Mesial root exposure, CEJ-AC (mm)
11																	11. Distal attrition score
12																	12. Distal contact point caries
13																	13. Distal root surface caries
14																	14. Distal root exposure, CEJ-AC (mm)
15																	15. Buccal smooth surface enamel caries
16																	16. Buccal root surface caries
17																	17. Buccal root exposure, CEJ-AC (mm)
18																	18. Lingual smooth surface enamel caries
19																	19. Lingual root surface caries
20																	20. Lingual root exposure, CEJ-AC (mm)
21																	21. DDE in the occlusal region
22																	22. DDE in the contact area
23																	23. DDE lower down crown side or in cervical area

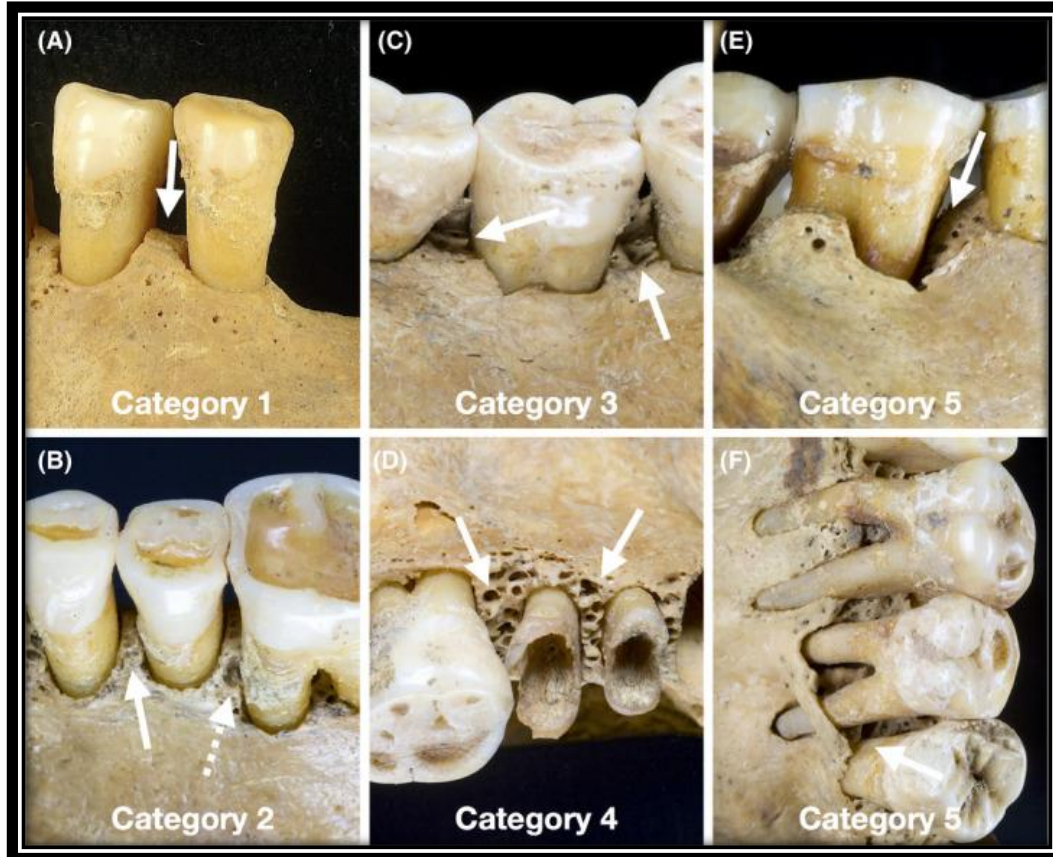
- Presence / absence
- size : measure the hole
- Location : which tooth, which surface, crown & roots



- Frequency
 1. per type of tooth
 2. per individual (difference regarding age/sex)



4. Periodontal diseases (Bertl *et al.* 2020)



•**Category 0:** “Unrecordable”—tooth on either side of the septum was lost antemortem or the septum was damaged postmortem.

•**Category 1:** “Healthy”—Characteristic shape of the septum for its region and no foramina or grooves interrupted the cortical surface.

•**Category 2:** “Healthy/Gingivitis”: Characteristic shape of the septum for its region, but the cortical surface shows a range from many small foramina and/or shallow grooves to larger foramina and/or prominent grooves.

•**Category 3:** “Acute periodontitis”—The septum shows a breakdown of contour with bone loss with a sharp and ragged texture.

•**Category 4:** “Quiescent periodontitis”—The septum shows a breakdown of contour with bone loss, but the surface shows a porous or smooth honeycomb effect with all defects rounded.

•**Category 5:** “Aggressive periodontitis”—Presence of a deep intra-bony defect with a depth of ≥ 3 mm either mesio-distally or bucco-lingually inclined.



What was the
stress
indicator on
teeth?



5. Enamel Hypoplasia (Goodman & Rose 1990)



- Spot the lines
- Measure distance between the LEH and the cementoenamel junction (CEJ) to *reconstruct chronologies of stressful events*

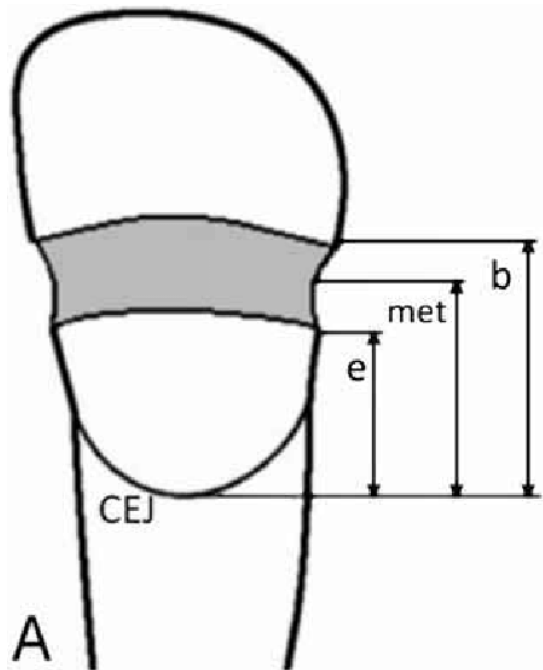


TABLE 1. Regression equations from Goodman and Rose (1990)

Tooth type	Formula ^a
Maxillary teeth	
I1	Age (in years) = $-(0.454 \times H) + 4.5$
I2	Age (in years) = $-(0.402 \times H) + 4.5$
C	Age (in years) = $-(0.625 \times H) + 6.0$
P3	Age (in years) = $-(0.494 \times H) + 6.0$
P4	Age (in years) = $-(0.467 \times H) + 6.0$
M1	Age (in years) = $-(0.448 \times H) + 3.5$
M2	Age (in years) = $-(0.625 \times H) + 7.5$
Mandibular teeth	
I1	Age (in years) = $-(0.460 \times H) + 4.0$
I2	Age (in years) = $-(0.417 \times H) + 4.0$
C	Age (in years) = $-(0.588 \times H) + 6.5$
P3	Age (in years) = $-(0.641 \times H) + 6.0$
P4	Age (in years) = $-(0.641 \times H) + 7.0$
M1	Age (in years) = $-(0.449 \times H) + 3.5$
M2	Age (in years) = $-(0.580 \times H) + 7.0$

^a Where H equals the distance between LEH and the CEJ in mm.



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Indicators of oral health & stress

- Apply on your bag