

The Sampling Strategy of Oral Microbiome

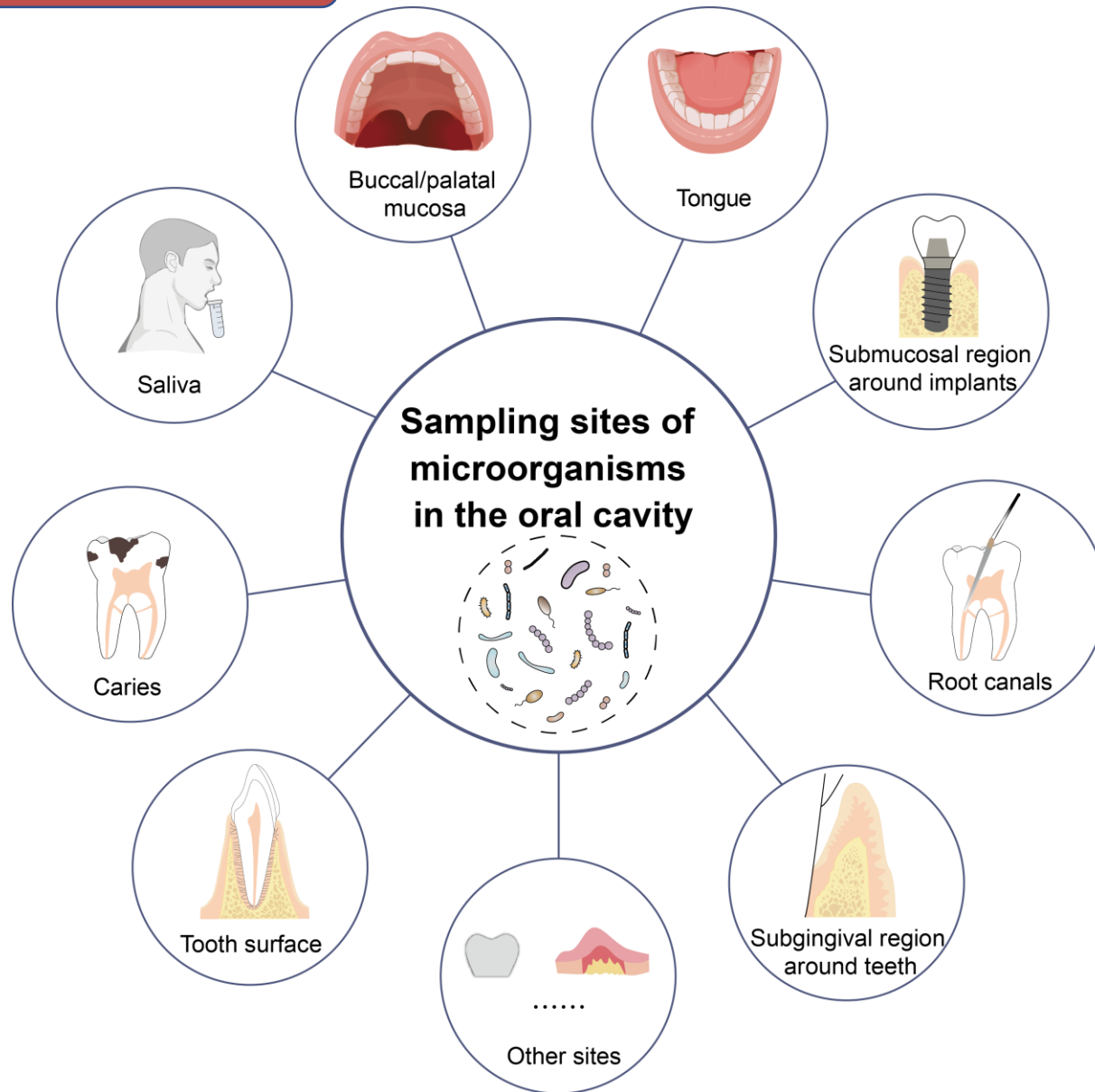
Hongye Lu, Peihui Zou, Yifei Zhang, Qian Zhang, Zhibin Chen, Feng Chen.

Zhejiang University School of Medicine School of Stomatology
Peking University School and Hospital of Stomatology



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Sampling sites



Highlights

- Oral microbiome attracts substantial attention, and reliable, feasible, and practical sampling strategy for the oral microbiome is required.
- The habitats of microorganisms in oral cavity primarily include saliva, supragingival area, subgingival/submucosal area, infected root canals, and mucosal surface.
- The sampling strategy of oral microbiota is described in this paper, which consists of sample collection, transport, processing, and storage.

The sampling of saliva

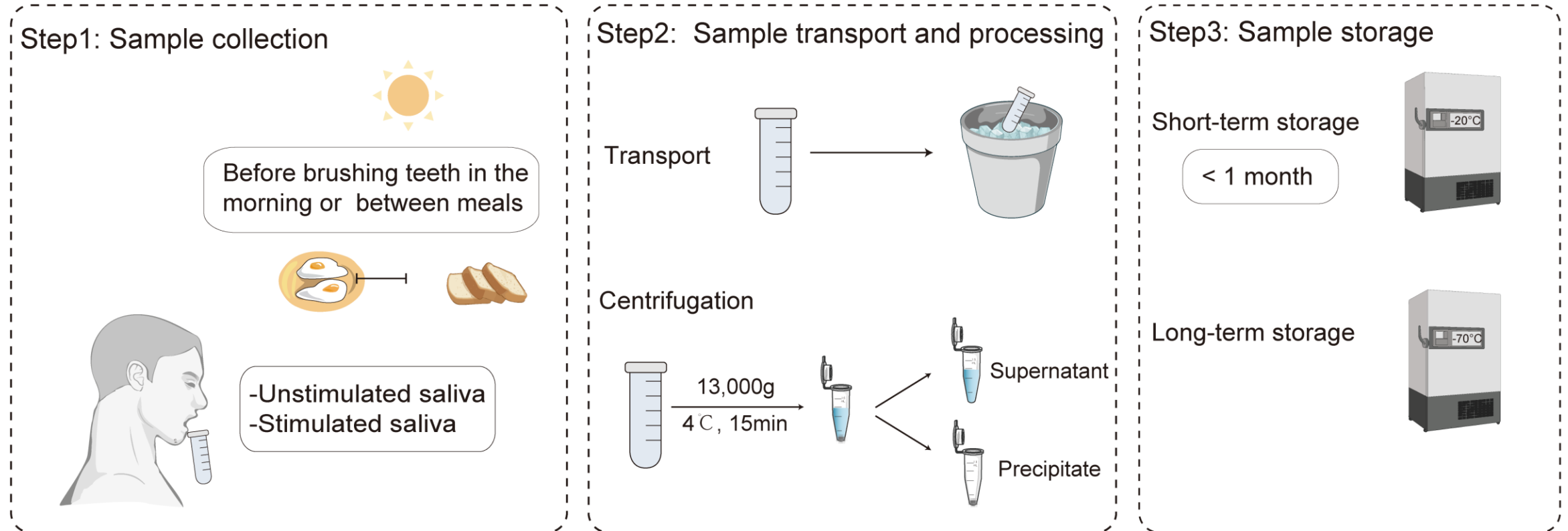


Figure 1. Sampling process of saliva.

The sampling of supragingival dental plaque

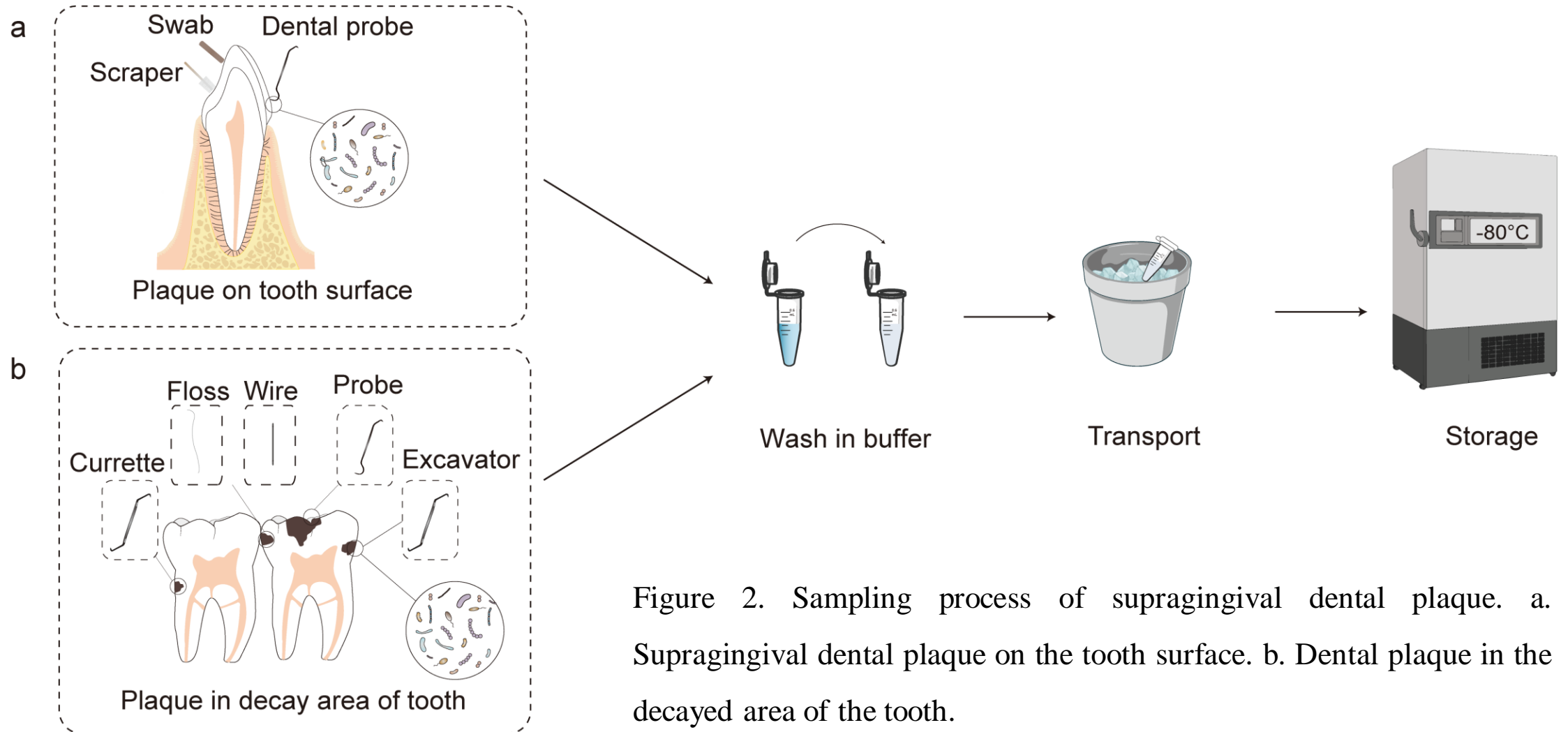


Figure 2. Sampling process of supragingival dental plaque. a. Supragingival dental plaque on the tooth surface. b. Dental plaque in the decayed area of the tooth.

The sampling of subgingival/submucosal dental plaque

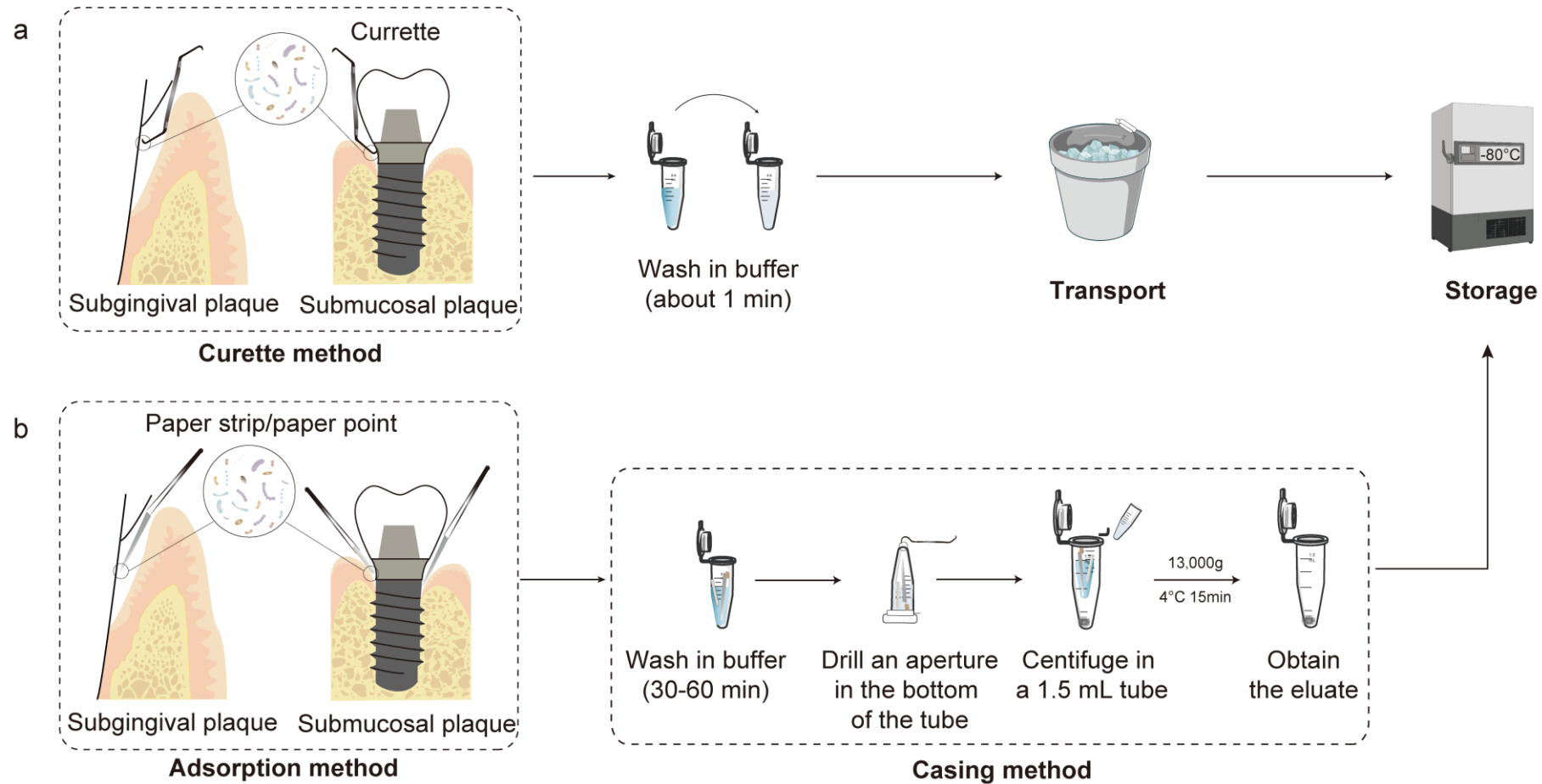


Figure 3. The sampling process of subgingival plaque and submucosal plaque. a. The sampling of subgingival plaque around the tooth or submucosal plaque around the implant with the curette method. b. The sampling method of subgingival plaque around the tooth or submucosal plaque around the implant with adsorption method.

The sampling of subgingival/submucosal dental plaque



The sampling of dental plaque in root canals

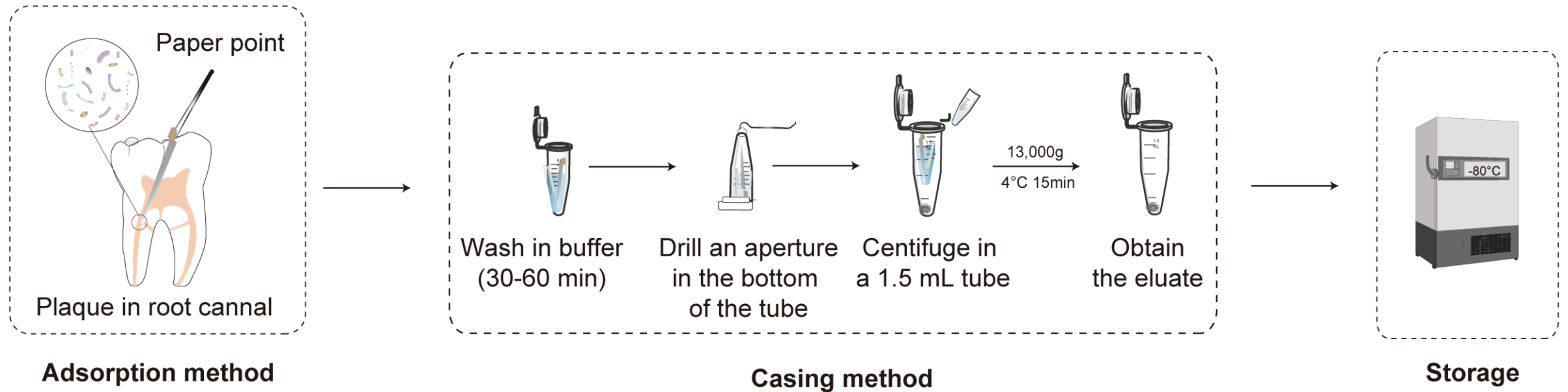


Figure 4. Sampling process of plaque in the root canal.

The sampling of plaque of plaque on the surface of oral mucosa

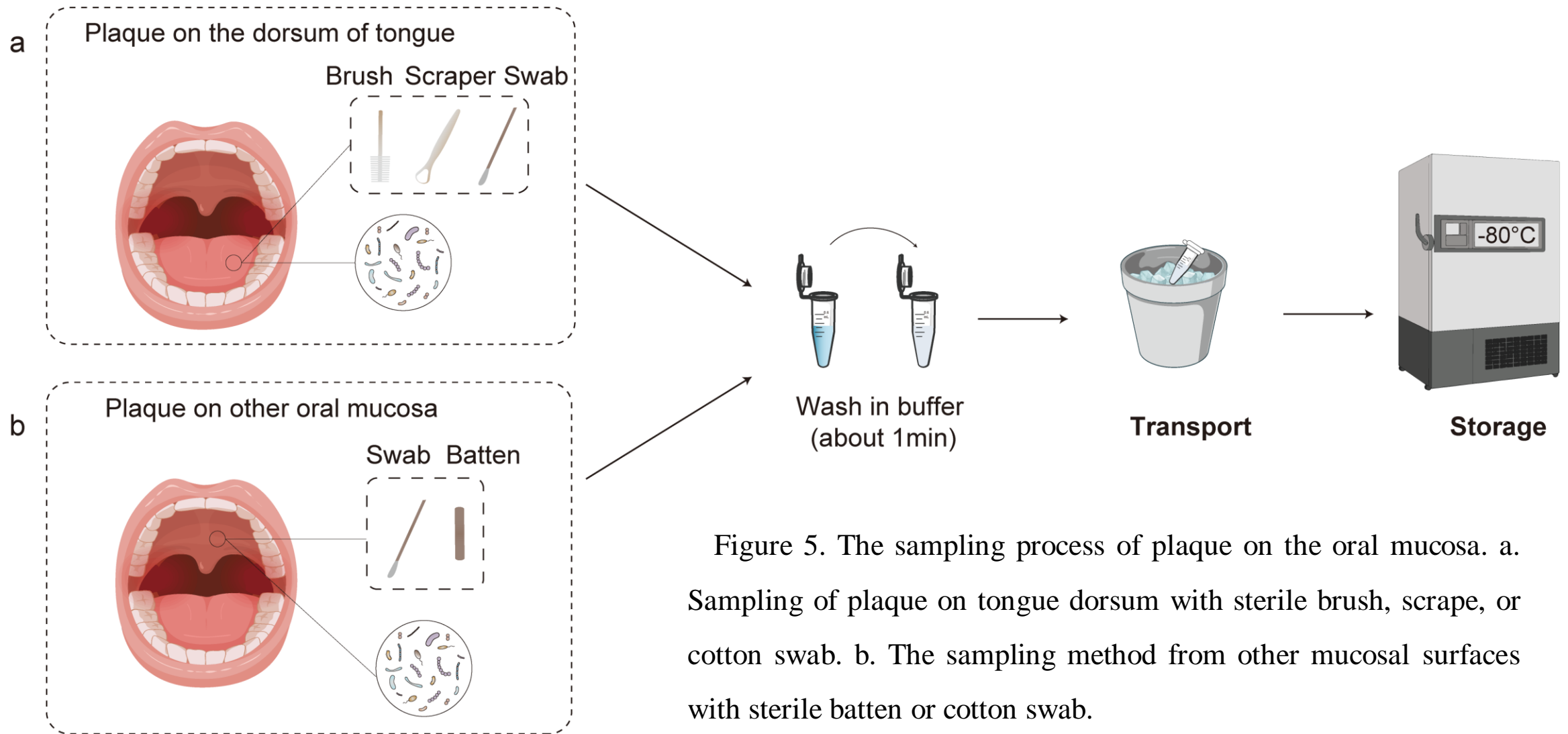


Figure 5. The sampling process of plaque on the oral mucosa. a. Sampling of plaque on tongue dorsum with sterile brush, scrape, or cotton swab. b. The sampling method from other mucosal surfaces with sterile batten or cotton swab.

Summary

- Sampling procedure could be conducted by dentist, dental hygienist, or trained researchers.
- The most important thing for sample collection is to avoid injuring volunteers. Gingiva is especially vulnerable to be hurt during the collection of subgingival/submucosal dental plaque.
- Another important thing is to avoid potential contamination of nearby microbial ecosystem. Collecting subgingival/submucosal dental plaque is very easy to be polluted by supragingival dental plaque because of the confined approach. Saliva is also very easy to be polluted by plaque from the mucosal surface.

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