A variety of papillary lesions affect the oral mucosa. In this section, we will focus on papillary lesions caused by various subtypes of human papillomavirus (HPV). HPV is a DNA virus that infects epithelial cells of the skin and mucosa resulting in solitary or multifocal epithelial lesions. Differentiating these lesions can be clinically difficult; in the following pages we present subtle clinical clues that can help. In some cases, histologic examination and HPV subtyping is needed to differentiate the lesions.

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2.1 Verruca Vulgaris

Also known as the common skin wart. It is uncommon in mouth, but verruca vulgaris is very common on the skin, often occurring on the hands in children.

Clinical Appearance Papillary, exophytic, white growth. Vary in size, most often a few millimeters to 1 cm. Multiple lesions are not uncommon. Asymptomatic.

Etiology Viral – human papillomavirus (HPV), often as the result of auto-inoculation from cutaneous warts of the fingers. The associated HPV subtypes are that of the “low-risk” subtypes (HPV-2, HPV-4, and HPV-40).

Location Anywhere, common in the anterior aspects of the oral cavity (i.e., anterior gingiva, lips, anterior tongue) – site that are easily auto-inoculated by putting infected fingers in mouth.

Differential Diagnosis Squamous papilloma, condyloma acuminatum, oral lesions of Heck disease, giant cell fibroma, and verruciform xanthoma.

![Verruca Vulgaris](image_url)
2.2 Squamous Papilloma

Clinical Appearance  Papillary, exophytic, white growth, often on a stalk. Vary in size, most often a few millimeters to 1 cm. Most often lesions are solitary and asymptomatic.

Etiology  Viral – human papillomavirus (HPV), most commonly types 6 and 11.

Location  Anywhere in the oral cavity.

Treatment  Conservative surgical excision, recurrence unlikely but possible. Some lesions resolve spontaneously over time.

Clinical Clue  Examining the patient’s hands for cutaneous lesion may aid in diagnosis.
Differential Diagnosis  Verruca vulgaris, condyloma acuminatum, oral lesions of Heck disease, giant cell fibroma, and verruciform xanthoma.

Treatment  Conservative surgical excision, recurrence unlikely.
2.3 Condyloma Accuminatum

Also known as a genital wart. It is uncommon in children. The presence of oral condylomas in children can be an indicator of sexual abuse.

Clinical Appearance Exophytic, white growth with blunted papillary projections and a broad base, often described as having a cauliflower-like appearance. Vary in size, most often about 1 cm, which is larger than oral squamous papilloma and verruca vulgaris. Multiple lesions are common. Asymptomatic.

Fig. 2.5 Squamous papilloma. White raised growth with short white papillations occurring on the lateral tongue

Fig. 2.6 Squamous papilloma. Exophtic growth with short white papillations occurring on the lateral tongue. Although appearing broad the lesion actually had a stalk-like attachment
Etiology  Viral – human papillomavirus (HPV), 90% of cases are attributed to HPV 6/11 “low-risk HPV” subtypes; however, co-infection with “high-risk” HPV subtypes 16/18 frequently occurs. Transmission can be the result of genital-oral contact, prenatal infection, digital inoculation, and possibly fomite transmission. In children, sexual abuse is the most common mode of transmission.

Fig. 2.7  Condyloma acuminatum. Multiple pink-white raised growths with short blunted surface papillations involving the lower labial mucosa. Patient is an adult

Fig. 2.8  Condyloma acuminatum. Exophytic growth of the ventro-lateral tongue with short, white, blunted surface papillations. Patient is an adult
2.3 Condyloma Acuminatum

Fig. 2.9 Condyloma acuminatum. Multiple raised growths with short white blunted surface papillations giving the lesions an appearance that resembles a head of cauliflower. The lesions involve the lower labial and anterior buccal mucosa. Patient is an adult.

Fig. 2.10 Condyloma acuminatum. Child presenting with an exophytic growth of the lower labial mucosa. The lesion has a broad base and blunted papillations.
**Location**  Most frequently on the soft palate, labial mucosa, and lingual frenum. The soft palate is the most common site in children.

**Differential Diagnosis**  Verruca vulgaris, squamous papilloma, condyloma acuminateum, oral lesions of Heck disease, giant cell fibroma, and verruciform xanthoma.

**Treatment**  Conservative surgical excision, recurrence unlikely but possible. Some lesions resolve spontaneously over time. Excisional biopsy might be required to establish the diagnosis.

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**Important Reminder**
Suspicious of sexual abuse must be reported to the appropriate authority. The child’s pediatrician should also be made aware of the finding.

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**Clinical Clue**  Lesions are often multiple and appear to have a short blunt papillae resulting in a so-called cauliflower-like appearance, are typically larger than squamous papilloma and verruca vulgaris, often occur in clusters, and have a broad base rather than a stalk.

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### 2.4   Heck Disease (Focal Epithelial Hyperplasia)

**Clinical Appearance**  Broad based, slightly elevated, papillary, or smooth-surfaced papules. Range from the color of normal mucosa to white. Individual lesions are 0.3–1.0 cm and well demarcated, but they frequently cluster together producing a cobblestone appearance. Heck’s disease was originally described in North American Natives but is now known to exist in numerous race and ethnic groups. Primarily occurs in children and is highly contagious. Asymptomatic.


**Location**  Anywhere in the oral cavity – sites of greatest involvement include the labial, buccal, and lingual mucosa.

**Differential Diagnosis**  Verruca vulgaris, squamous papillomas, condyloma acuminateum, neurofibromas, and mucosal neuromas.

**Treatment**  Unnecessary. Lesions resolve spontaneously over time (months to years). Conservative surgical excision can be performed if visible lesions are of esthetic concern. Excisional biopsy might be required to establish the diagnosis.
2.4 Heck Disease (Focal Epithelial Hyperplasia)

Fig. 2.11 (a–d) Heck disease. Four-year-old male child from South America with multiple, pink, flat to slightly papillary growths of the anterior dorsal tongue, upper and lower lip mucosa, and buccal mucosa. Child also noted to have caries of maxillary lateral and central incisors.
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