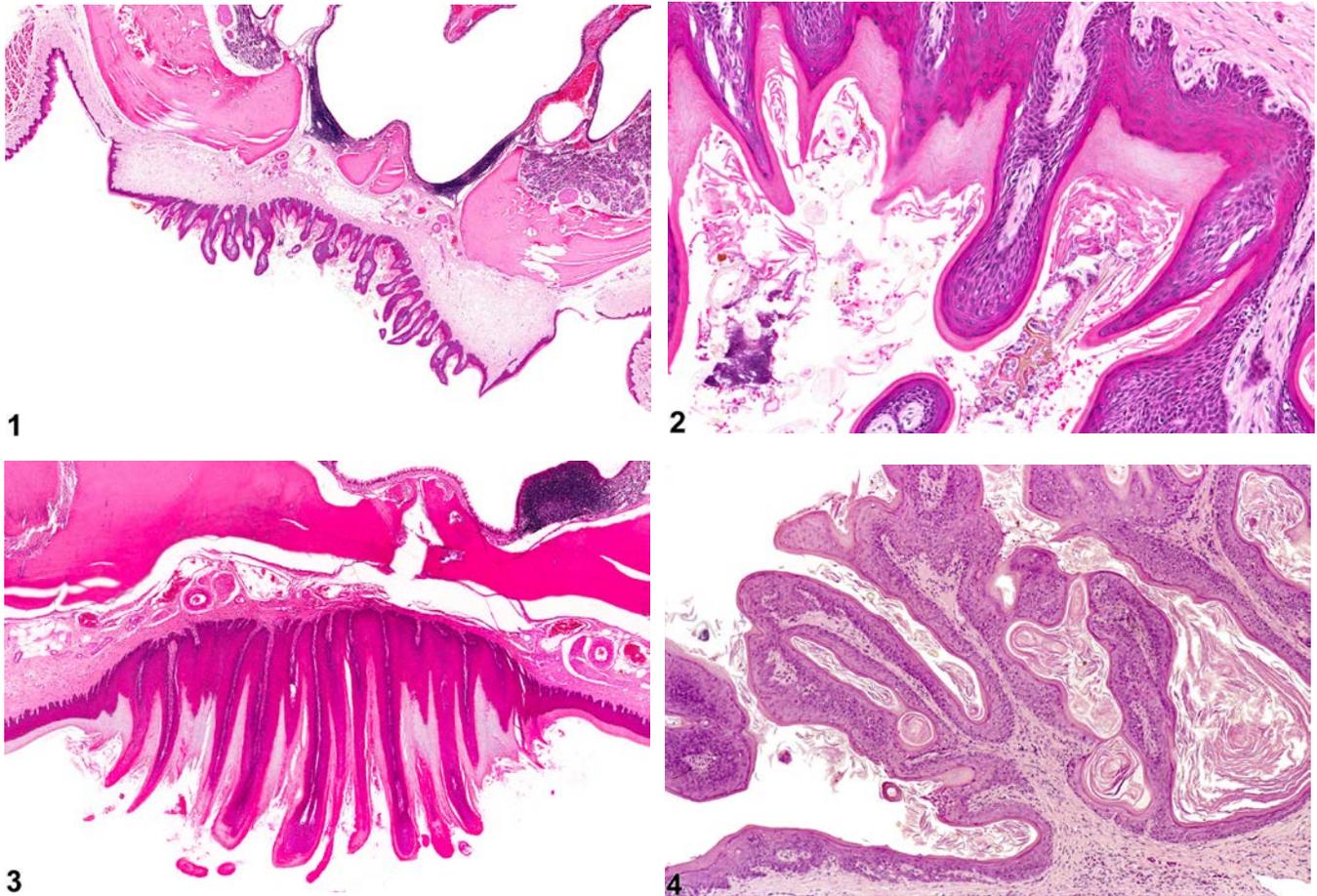




# NTP Nonneoplastic Lesion Atlas

## Oral Mucosa – Hyperplasia, Squamous



**Figure Legend:** **Figure 1** Oral mucosa - Hyperplasia, Squamous in a female F344/N rat from chronic study. There is hyperplasia of the squamous epithelium of the hard palate. **Figure 2** Oral mucosa - Hyperplasia, Squamous in a female F344/N rat from chronic study (higher magnification of Figure 1). There is hyperplasia of the squamous epithelium of the hard palate. **Figure 3** Oral mucosa - Hyperplasia, Squamous in a male B6C3F1 mouse from a chronic study. The epithelium of the hard palate forms papillary folds. **Figure 4** Oral mucosa - Hyperplasia, Squamous in a male F344/N rat from a chronic study. The gingival epithelium is hyperplastic, with thickening of the epithelial layer and numerous folds.

**Comment:** Squamous hyperplasia of the oral mucosa is usually seen on the palate (Figure 1, Figure 2, and Figure 3) or gingiva (Figure 4). Squamous hyperplasia is characterized by increased numbers of squamous cells resulting in increased thickness of the squamous epithelium, which may be diffuse or



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plaque-like or form blunt papillary projections. Hyperkeratosis is frequently seen with squamous cell hyperplasia. Ulceration of these lesions may be seen and is usually attributed to mechanical abrasion. Proliferative lesions of the squamous epithelium are thought to be on a continuum, progressing from focal hyperplasia to papilloma to invasive squamous cell carcinoma, although the papilloma stage may be skipped, with progress directly from focal hyperplasia to squamous cell carcinoma. Papillomas are superficial tumors with marked acanthosis, hyperkeratosis, and papillary patterns. Papillomas are usually exophytic, although the inverted papilloma grows in a cuplike shape into the underlying stroma. Exophytic papillomas have a vascularized inner core of connective tissue extending from the submucosa (forming a stalklike structure) that is covered by proliferating squamous epithelial cells, which are often keratinized. The sessile shape, well-differentiated appearance of cells, and absence of a prominent stromal component are important in distinguishing hyperplasia from papilloma. Squamous cell carcinomas can be differentiated from hyperplasia in that the neoplastic cells of a squamous cell carcinoma generally have atypical cells with karyomegaly, loss of nuclear polarity, enlarged prominent nucleoli, and increased mitotic figures. Neoplastic squamous cells invade beyond the basement membrane, with islands, cords, and trabeculae of neoplastic epithelial cells extending into the underlying stroma.

**Recommendation:** Squamous hyperplasia should be diagnosed and graded based on the size, thickness, and number of hyperplastic areas. The location of the lesion (e.g., gingival, palatal) should be noted in the pathology narrative. Associated lesions, such as inflammation, should not be diagnosed separately unless warranted by severity. Hyperkeratosis or ulceration associated with hyperplasia should not be diagnosed separately but should be a part of the lesion description in the pathology narrative.

### **References:**

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