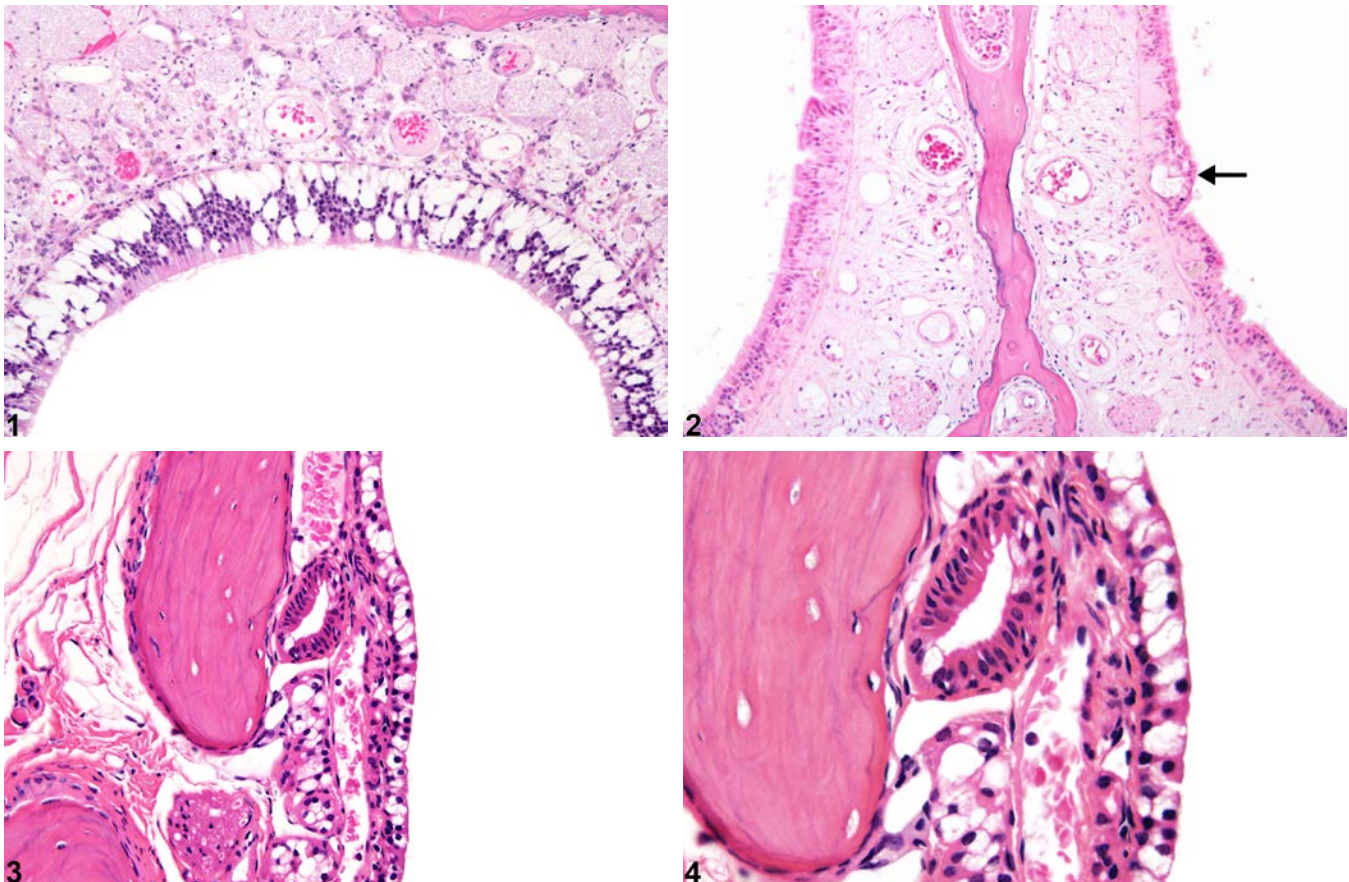




# NTP Nonneoplastic Lesion Atlas

## *Nose, Epithelium – Degeneration*



**Figure Legend:** **Figure 1** Nose, Olfactory epithelium - Degeneration in a male F344/N rat from a chronic study. Numerous vacuoles are present in the olfactory mucosa. **Figure 2** Nose, Olfactory epithelium - Degeneration in a female B6C3F1/N mouse from a chronic study. A clear vacuole (arrow), disorganization, and homogeneous cytoplasmic change are present in the mucosa. **Figure 3** Nose, Respiratory epithelium - Degeneration in a male B6C3F1/N mouse from a chronic study. Cytoplasmic vacuoles are present in the respiratory epithelium lining a turbinate. **Figure 4** Nose, Respiratory epithelium - Degeneration in a male B6C3F1/N mouse from a chronic study (higher magnification of Figure 3). Cytoplasmic vacuoles are present in the respiratory epithelium.

**Comment:** Degeneration of the nasal epithelium (Figure 1, Figure 2, Figure 3, and Figure 4) is characterized by one or more of the following: loss of cilia, epithelial cell bleb formation, cellular disorientation, cellular eosinophilia, swelling, loss of cell-to-cell contact, or vacuolar changes within the



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epithelium. Degeneration may imply a current, ongoing process, so when the process seems to be active, the term “degeneration” may be appropriate. Degenerative changes may also occur in the epithelia of accessory nasal structures, possibly in the absence of degenerative changes in the lining epithelia. “Cystic degeneration” is reserved for epithelial-lined structures within the mucosa or lamina propria. Such cysts usually contain homogeneous or granular material. Epithelial degeneration is a common treatment-related lesion in toxicity studies but may also be seen in control animals.

**Recommendation:** Epithelial degeneration should be diagnosed and assigned a severity grade whenever present. The type of epithelium should be included in the diagnosis as a site modifier (e.g., Nose, Olfactory epithelium - Degeneration). A thorough description of the lesion should be included in the report narrative, including identification of the target cell (e.g., sensory or sustentacular cells in the olfactory epithelium) if possible. Degenerative changes in the epithelium of an accessory nasal organ, in the absence of degeneration in other epithelial sites, should be diagnosed separately; if they occur as part of a more widespread degenerative epithelial process, then they should not be diagnosed separately but considered a component of that process and simply described in the pathology narrative. A diagnosis of cystic degeneration is appropriate when there are epithelial-lined structures in the nasal mucosa; this change should be given a severity grade and site identification. Associated lesions, such as inflammation, should be diagnosed separately if warranted by severity.

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