

NTP Nonneoplastic Lesion Atlas

Penis, Prepuce – Inflammation, [Acute, Suppurative, Chronic, Chronic-active, Granulomatous]

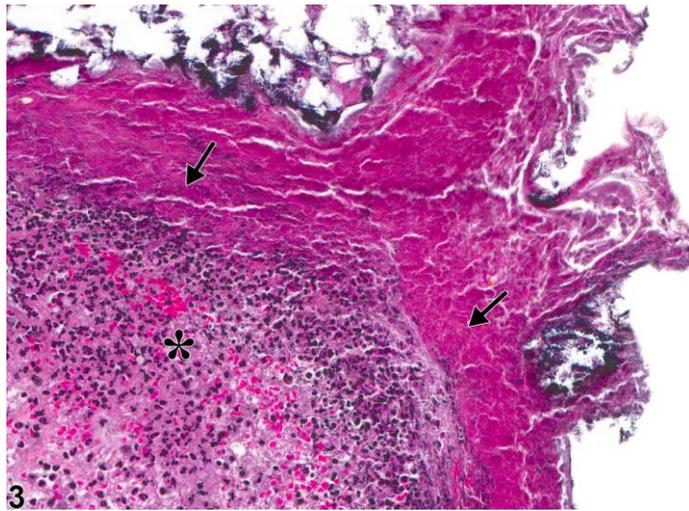
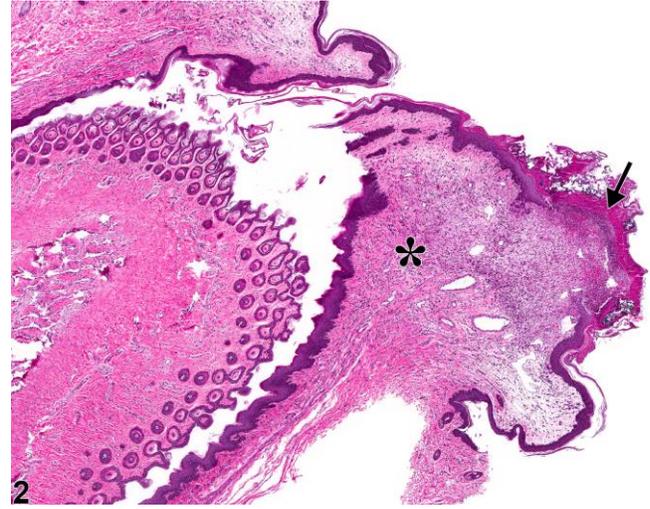
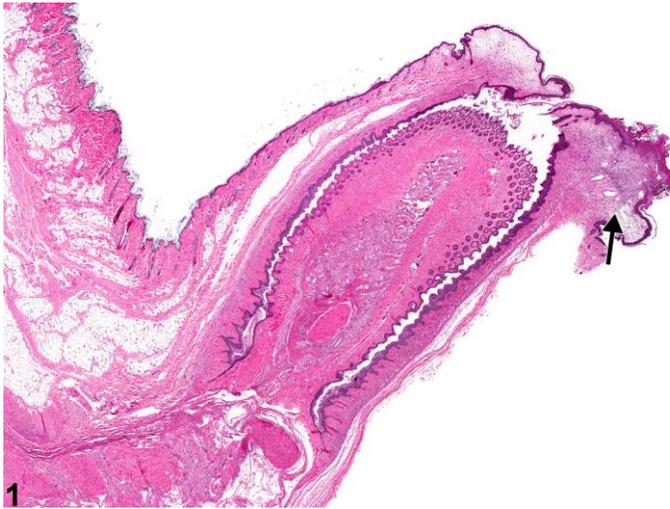


Figure Legend: **Figure 1** Penis, Prepuce - Inflammation. Arrow indicates inflammation of the prepuce in a F344/N rat from a chronic study. The penis is normal. **Figure 2** Penis, Prepuce - Inflammation. Higher magnification of Figure 1. Asterisk indicates acute inflammation associated with necrosis of overlying epithelium (arrow) in a F344/N rat from a chronic study. **Figure 3** Penis, Prepuce - Inflammation. Higher magnification of Figure 2. Asterisk indicates acute inflammation; arrows indicate necrosis of overlying epithelium in a male F344/N rat from a chronic study.



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Comments: Inflammation of the prepuce in this case consists of swelling and infiltration of inflammatory cells and is likely associated with trauma. Figures 2 and 3 represent acute inflammation (asterisks) of the prepuce with superficial necrosis.

NTP studies have five standard categories of inflammation: acute, suppurative, chronic, chronic-active, and granulomatous. In *acute inflammation*, the predominant infiltrating cell is the neutrophil, though fewer macrophages and lymphocytes may also be present. There may also be evidence of edema or hyperemia. The neutrophil is also the predominant infiltrating cell type in *suppurative inflammation*, but they are aggregated, and many of them are degenerate (suppurative exudate). Cell debris from both the resident cell populations and infiltrating leukocytes, proteinaceous fluid containing fibrin, fewer macrophages, occasional lymphocytes or plasma cells, and, possibly, an infectious agent may also be present in the exudate. Grossly, these lesions would be characterized by the presence of pus. The tissue surrounding the exudate may have fibroblasts, fibrous connective tissue, and mixed inflammatory cells, depending on the chronicity of the lesion. Lymphocytes predominate in *chronic inflammation*. Lymphocytes also predominate in *chronic-active inflammation*, but there are also a significant number of neutrophils. Both lesions may contain macrophages. *Granulomatous inflammation* is another form of chronic inflammation, but this diagnosis requires the presence of a significant number of aggregated, large, activated macrophages, epithelioid macrophages, or multinucleated giant cells.

Recommendation: Inflammation should be recorded, classified, and graded.

Reference:

Boorman GA, Elwell MR, Mitsumori K. 1990. Male accessory sex glands, penis, and scrotum. In: Pathology of the Fischer Rat: Reference and Atlas (Boorman GA, Eustis SL, Elwell MR, Montgomery CA, MacKenzie WF, eds). Academic Press, San Diego, 419-428.

Abstract: <http://www.ncbi.nlm.nih.gov/nlmcatalog/9002563>



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