the purpose of the present study was to define normal MRI anatomy of the larynx and pharynx and to define the optimal protocol, sequences and possible limitations of this examination technique in the horse. Two horses without clinical signs of upper airway disease were used. Low-field MRI (Hitachi Airis II, 0.3 Tesla) of the laryngeal and pharyngeal regions was performed under general anesthesia. The protocol consisted of sagittal and transverse T2w Fast Spin Echo, transverse T1w Spin Echo and dorsal high resolution T1w gradient echo (both plain and contrast enhanced) sequences. Euthanasia was performed at the end of the imaging procedure. After death the heads were removed and frozen immediately. The first head was sectioned in sagittal, the second in transverse direction according to the MR imaging planes, then photographed, and compared with the MR images. The laryngeal cartilages, hyoid apparatus, and upper airway muscle groups with their attachments could be identified. However, it was not always possible to isolate individual muscle bellies in every plane (e.g. lateral pharyngeal muscles in the sagittal plane). Most useful were both T2 weighted and T1 weighted transverse sequences. Contrast was helpful to identify blood vessels. The MR images corresponded well with the macroscopic anatomy of cadaver sections. MRI is useful for assessing the equine larynx and pharynx. There was excellent differentiation of soft tissue structures. The main limitation of MRI is the need for general anesthesia. This study provides an atlas of normal anatomy of the equine larynx and pharynx, which can help evaluating laryngeal and pharyngeal diseases in horses.