2.2.2 Physiology of the Nose and Nasal Cavity The nose and its internal nasal cavity provides a passageway for the air to pass through to the lungs, warms and moistens (humidifies) the inhaled air, filters and cleans the inhaled air from any foreign particles, resonates sounds for speech, and houses the olfactory receptors for smell.The functional role of the nasal cycle is not exactly known but some hypothesis include: a contribution towards respiratory defence during nasal infection (Eccles 1996); and increased contact of inspired air with the mucosa since there is increased airflow through a decongested airway which provides increased levels of turbulence.This asymmetry is referred to as the nasal cycle which is a result of congestion (swelling) of the erectile tissue (cavernous tissues of the mucosa) in one nasal cavity while at the same time decongestion (shrinking) occurs to the erectile tissue in the other cav- ity.At the entrance of the nasal cavity in the vestibule region, the surface wall is made up of stratified squamous epithelium (same as the external skin) which contains sebaceous glands, and nose hairs (vibrissae), serving to filter out inhaled particulates.The nasal cycle is defined as a cyclic fluctuation in congestion and decongestion of the nasal venous sinusoids ranging over a period of 30 min to 6 h. Airflow through the nasal cavity is normally asymmetrical, where one nasal passage (left or right) is dominant.The respiratory mucosa in the turbinates has a thick, vascular and erectile glandular tissue layer which is subject to tremendous erectile capabil- ities of nasal congestion and decongestion, in response to the climatic conditions and changing needs of the body.This physiologic phenomenon which has been reported in more than 80 % of normal individuals (Keay et al. 1987), is an important consideration when a patient undergoes a CT or MRI scan since the scan is an instant snapshot in time of the nasal cavity's physiological state.The serous glands produce and deliver to the surface a watery fluid containing anti-bacterial enzymes while the mucous glands and goblet cells secrete a slimy, semi-sticky liquid called mucous.Near the roof of the nasal cavity in the region from the superior nasal concha and the opposed part of the septum at the olfac- tory region, the mucosa changes, having a yellowish colour and the epithelial cells are columnar and non-ciliated.This is made up of a pseudo stratified ciliated columnar epithelium surface containing interspersed goblet cells that sits atop a lamina propia.

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