Gynecomastia\textsuperscript{1,2}

Narrative Section

**Historical Vignette** - The great artistic masters of the Italian Renaissance represented gynecomastia in their works long before the clinical significance was known. Donatello’s *David* is the first free-standing bronze statue of the modern era. This depiction of the Biblical hero shows not only his victorious pose, but also the obvious swelling of his breast tissue. While some commentators have ascribed effeminate characteristics to the statue, modern understanding of pubertal development suggests physiologic gynecomastia.

**Context and Usefulness** - The significance of gynecomastia rests on the clinical context of the patient. Male teens with breast development can be reassured of a transient developmental stage while middle-aged alcoholics exhibiting sub-areolar nodules could have cirrhosis. Elderly men may have gynecomastia as a complication of drug therapy or may simply have accumulation of soft tissue about the breasts known as pseudo-gynecomastia of obesity. Accurately distinguishing these conditions can focus further testing and streamline diagnosis.


Physical Maneuver

**Model Proper (And Improper) Technique** - with the patient lying on his back, clasp one hand behind the head to flatten the breast tissue. The examiner uses a thumb and forefinger to slowly grasp the suspect area of the breast. Nodules that are within the nipple-areolar complex and are firm or rubbery are consistent with gynecomastia. Patients may experience tenderness with palpation of these nodules of hypertrophied breast tissue. Lack of a discrete nodule indicates pseudo-gynecomastia.

If the patient is sitting up or does not place his arm behind his head, smaller nodules may be more difficult to appreciate.

**Interpretation** - An imbalance between free estrogens and free androgens has direct effect on the growth of breast tissue. In mid-puberty, for instance, testes produce more estrogen than testosterone, leading to the physiologic imbalance. A more sinister source such as estrogen-secreting testicular tumors or testosterone-depleting conditions such as hypogonadism may result in gynecomastia. Additionally, increased aromatase activity occurring with age and obesity can lead to a natural increase in breast development in the elderly.

**Caveat and Common Errors** - The three main distinctions to draw on the exam are the difference between increases in sub-areolar glandular breast tissue (gynecomastia), increases in sub-areolar fat without glandular enlargement (pseudo-gynecomastia), and unilateral, firm tissue that is eccentric to the nipple-areolar complex ( worrisome for breast carcinoma). While a tender nodule often supports gynecomastia, fibrous tissue can develop, causing the otherwise tender nodule to become insensate.