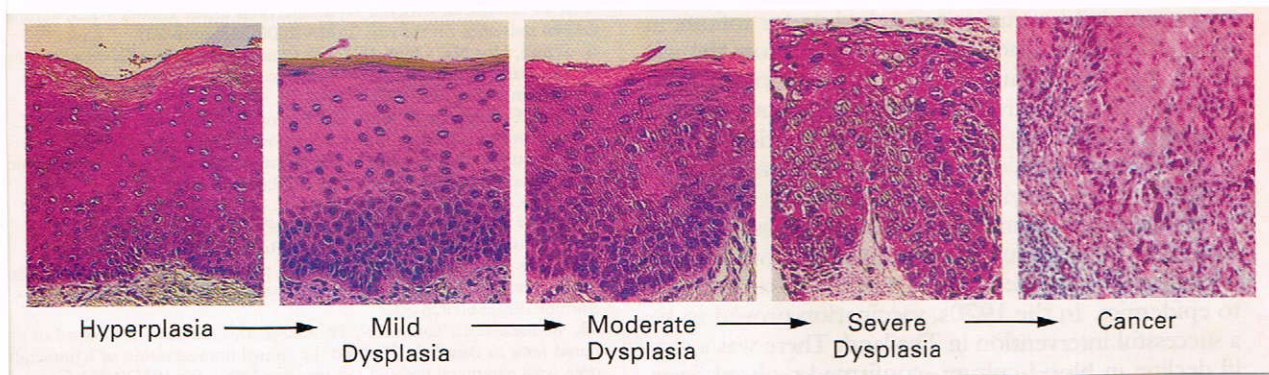


What is the difference between dysplasia and hyperplasia? People commonly confuse, misinterpret, or incorrectly explain the "-plasias." Health and research journals toss the words "metaplasia," "heteroplasia," "dysplasia," "neoplasia," "hyperplasia," and "anaplasia" throughout their works, but what do these words really mean? It is tempting for readers to lump all the "-plasias" together, assuming that they all refer to cancerous or pre-cancerous cells, but that's an erroneous assumption. Hyperplasia, metaplasia, and heteroplasia don't necessarily deal with cancer, and the other three terms cover a wide spectrum of cancer progression.

I. Hyperplasia is any abnormal multiplication of cells, but the cells themselves look 'normal'.

Hyperplasia refers to an abnormal increase in cellular quantity. Hyperplastic growth in cell number usually results in organ enlargement or (benign) tumor formation, but sometimes it is noticeable only under a microscope. Hyperplasias only form benign tumors because the cells of a hyperplastic growth remain subject to normal regulatory control mechanisms. This stands in contrast to neoplastic growth (the process underlying malignant tumors), in which cells replicate/proliferate in a non-physiological manner which is unresponsive to normal stimuli.



II. Dysplasia is pre-cancer. Think of it as 'atypical hyperplasia'. Too many cells, they do not look 'normal'. Dysplasia refers to any disordered growth and maturation of an epithelium, which is still reversible if the factors driving it are eliminated. The description is similar to that of metaplasia, but there are several key differences. Metaplasia is not considered a part of carcinogenesis, and while dysplasias show a delay in maturation/differentiation of cells within tissues (e.g., expansion of immature cells with a corresponding decrease in number/change in location of mature cells), metaplasias have cells of one mature/differentiated type replace cells of another mature/differentiated type.

Another way to describe dysplasias is by pathology: dysplasia is often the earliest form of pre-cancerous lesion recognizable in a pap smear or in a biopsy by a pathologist. Dysplasias can be low grade or high grade. The risk of a low-grade dysplasia transforming into a high-grade dysplasia (and eventually to cancer) is low. "High-grade dysplasia" is often synonymous with "carcinoma in situ." These dysplasias represent a more advanced progression towards malignant transformation, and the risk of high-grade dysplasias transforming into cancer is high. When the entire epithelium is dysplastic and no normal epithelial cells are present, the growth is termed a neoplasia.