

- C. Slide 1: (histo) Biopsy, one side abnormal → dysplastic. Definition: cells are immature from base to surface, **bad maturation**. This is **severe dysplasia** – full thickness w/ absolutely no maturation at the top (also called **Carcinoma in situ (CIS)**). If you don't do something, it MIGHT turn into cancer; it might not.
 - D. To define if it's real cancer, see if it's **infiltrating**. This one isn't (yet?). If it infiltrates, it will be a **squamous cell carcinoma**. The dysplastic stuff is pleomorphic, **irregular nuclear borders**, way **too many chromosomes**. **High N:C Ratio**. **HOWEVER, NOT INFILTRATING YET**, so we can't call it cancer yet.
 - E. Answer to student Q about role of concomitant STD's in progression of HPV: No proof that having STD's alters the course/ development of cervical CA, but it seems to make sense that it would by virtue of compromising host defenses. What we do know is that the type of HPV is important. Also, there may be other contributing factors that we don't know about (for ex. before we knew about HPV the theory was that Herpes was involved). Another problem with associated disease/infection is that it could obscure the diagnosis.
- IV. **CASE 4 – 52 yo man with scaly irregular skin lesion on his arm, growing slowly over 4 months**
- A. Questions to ask pt.: What's his occupation? Right; does he have a lot of sun exposure? Any tattoos? (You would see that though.)
 - B. Slide 1: (histo) Irregular basement membrane, but not irregular from top to bottom or afflicted with weird nuclei. Looks thick, irregular → benign response to injury with proliferation of extra cells = hyperplasia. (∅ scarring b/c that would be fibrous tissue) Hyperplasia is reversible, unlike neoplasia.
 - C. Slide 2: (histo) farther over. Here it's infiltrating (which apparently makes cool sounds) through the basement membrane. This is skin, an epithelium, a carcinoma from the keratinizing cells → squamous cell carcinoma.
 - D. Slide 3: (histo) another case. Can you tell it's squamous? Here, yes. Identifying characteristics = it's making keratin (keratin pearls/swirls of epithelium) & has intercellular bridges.
 - E. These cells are doing their former job ∴ well-differentiated (& can be easily identified). **Malignant cells can be well, moderately, or poorly** (easy to tell that it's a tumor but can't tell what kind of tissue it's supposed to be) **differentiated**, as long as it's infiltrating, but the less differentiated, the less likely we can tell what it looks like, and the less specifically we can name it.
- V. **CASE 5 – 65 yo man with cough for 2 months; says a lab screen elsewhere found elevated serum Ca**
- A. What are you worried about?
 1. **Cough – is it smoking?**
 2. Meds? Maybe an ACE inhibitor, but ask about smoking first. (b/c we're in pharmacology, we go for the zebra)
 3. TB exposure?
 4. What's his job?
 - B. This is a huge differential: could be bacterial, viral, environmental, job exposures, smoking, cancer, etc., etc. Let's go for the deadliest first: smoking & cancer.
 - C. The Ca issue
 1. There are lung cancers that metastasize to bone and produce hypercalcemia
 2. Paraneoplastic syndromes: Squamous cell carcinoma of the lung tends to produce a PTH-like substance that would account for the Ca business.
 3. Might also be sarcoid (lung disease which does produce hypercalcemia), but that is usually found in young black women. This is a fairly old guy, so it's pretty low on the differential.
 - D. Slide 1: (histo) So here's the lung; we're near the bronchus, as you can see cartilage. Weird architecture nearby – should be spongy, airy – but it's a lump! Lungs work better with airholes in 'em.
 - E. Slide 2: (higher power) One side of this passage is missing its cilia – a carcinoma in situ next to an invasive cancer (squamous cell carcinoma). The invasive bit is not obviously squamous, so it is poorly differentiated. Metaplasia from irritation (smoking, light) goes to dysplasia, which goes from mild to moderate to severe (CIS).