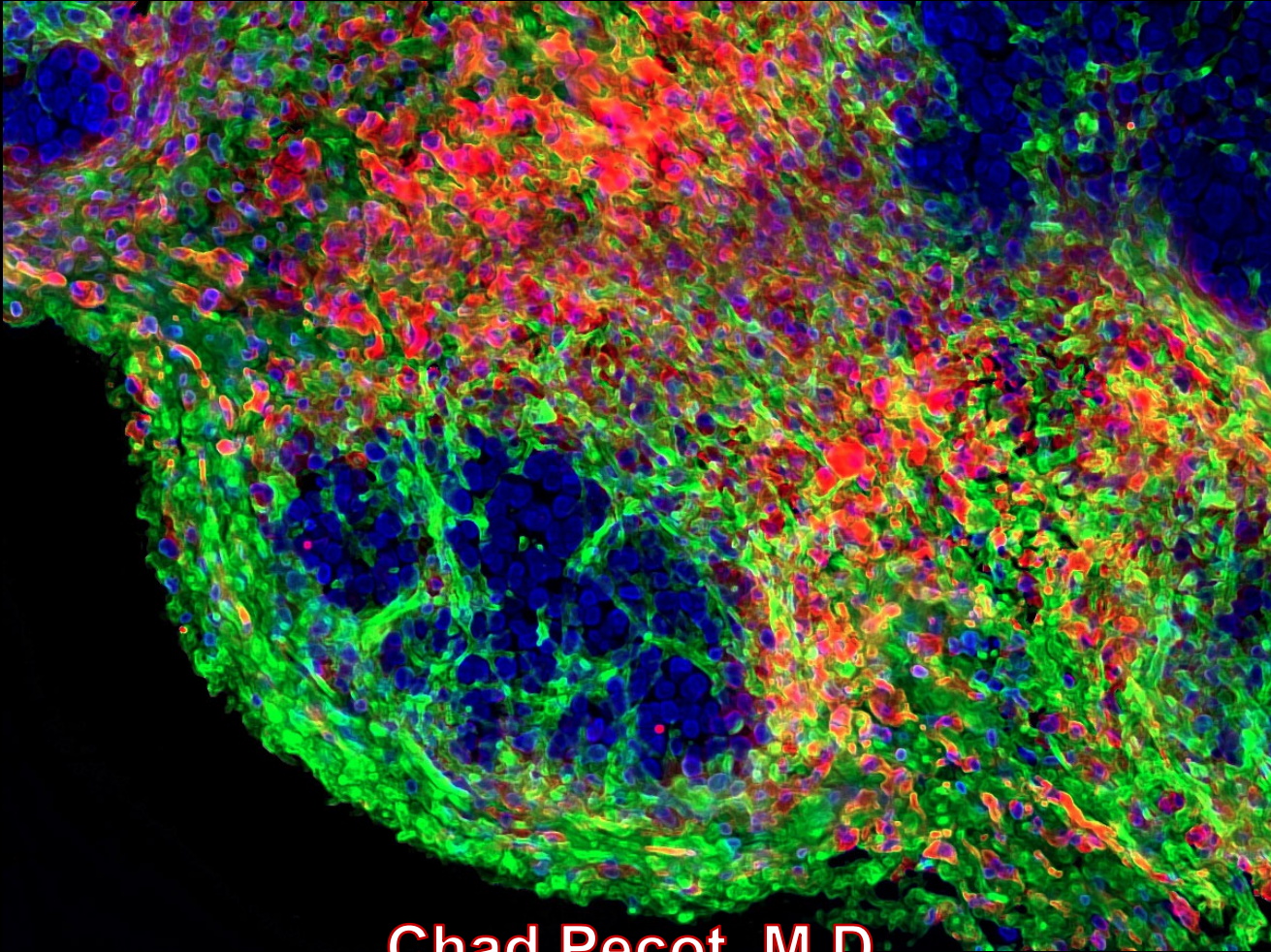


ASPIRE: What is Cancer, 201?



Chad Pecot, M.D.

Professor, Department of Medicine

Director of the RNA Discovery Center

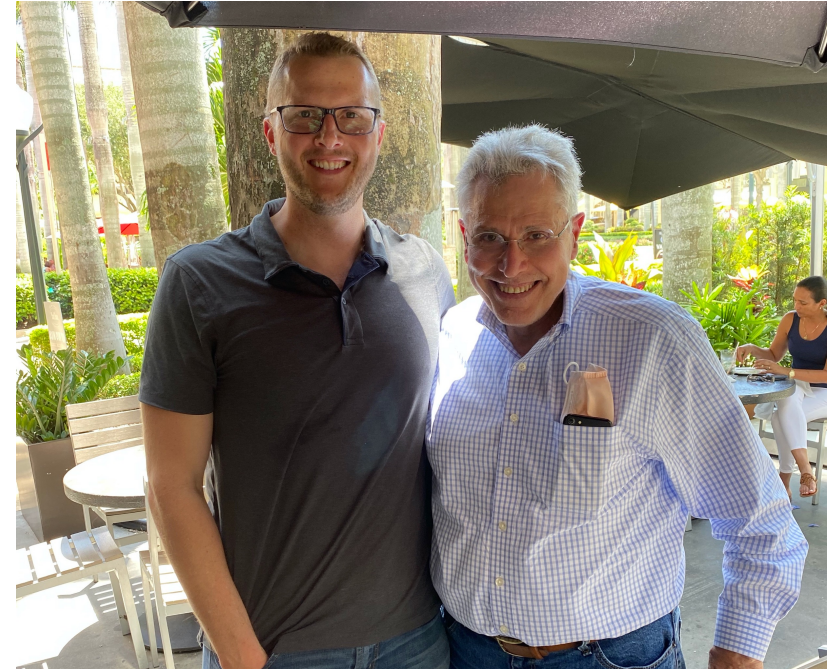
February 9th, 2024

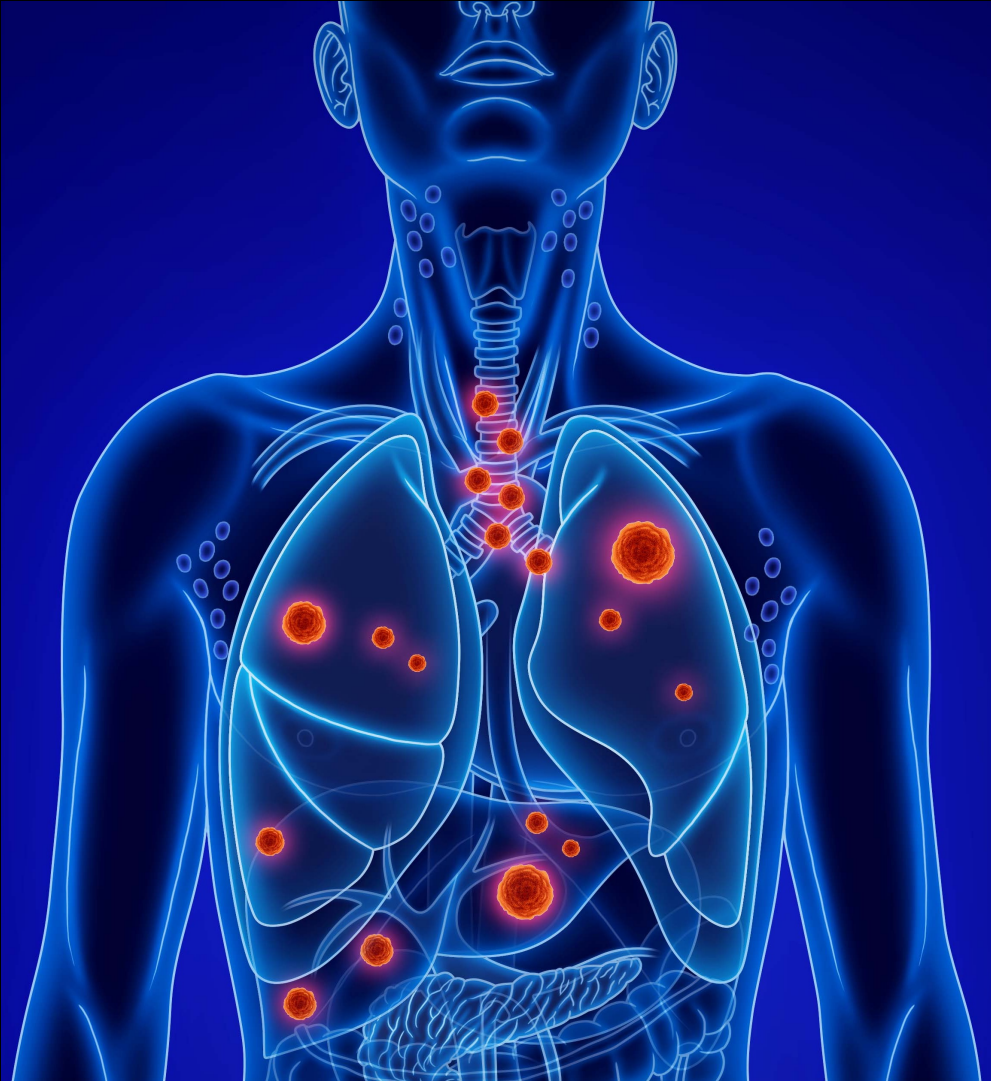
Fighting Cancer is Very Personal!

How it Started (2000):

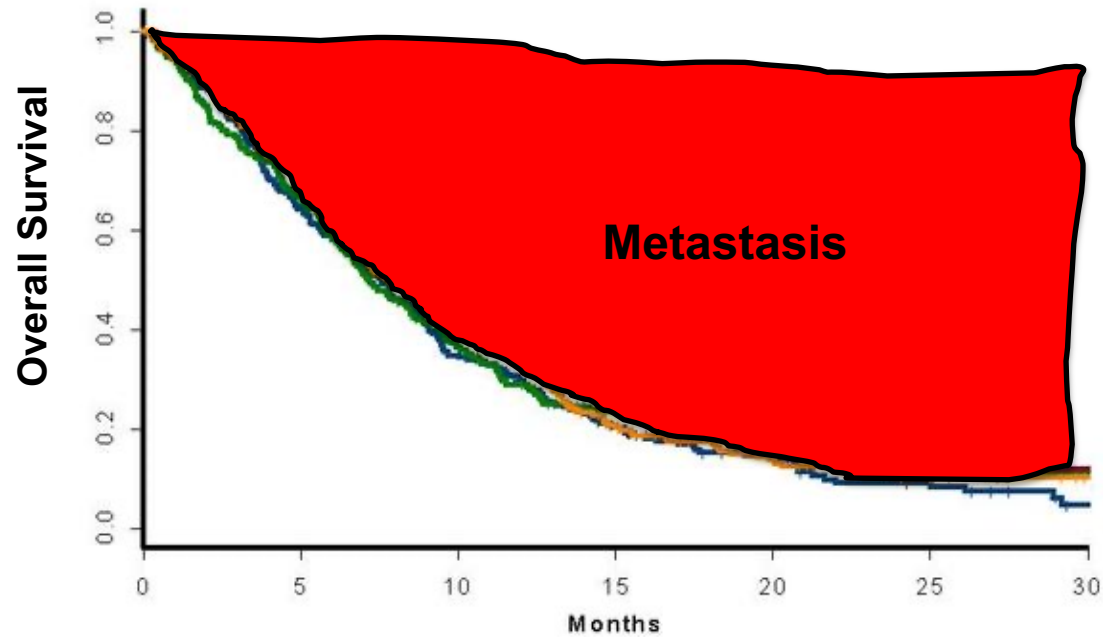


How it's Going (2021):



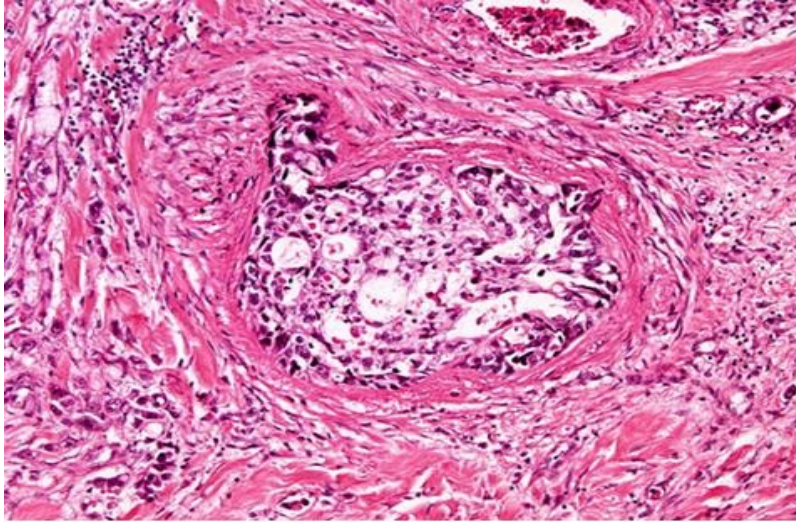


Why Study Metastatic Prostate?

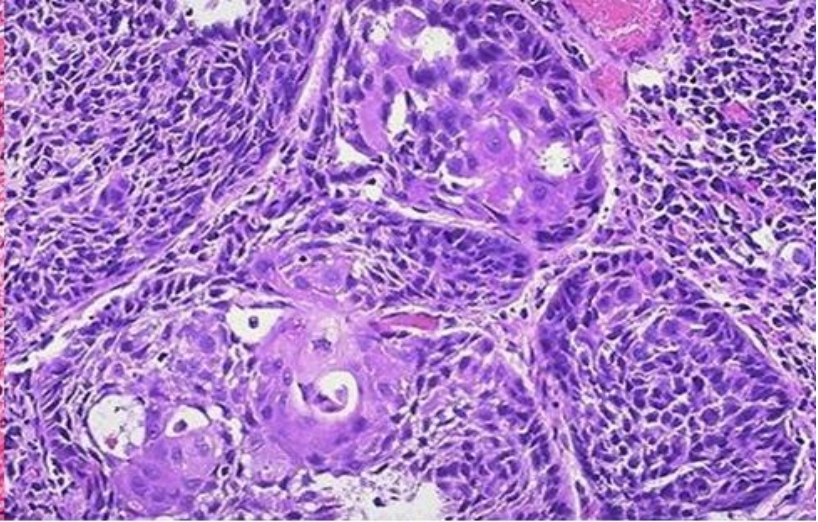


Schiller et al, *NEJM*, 2002

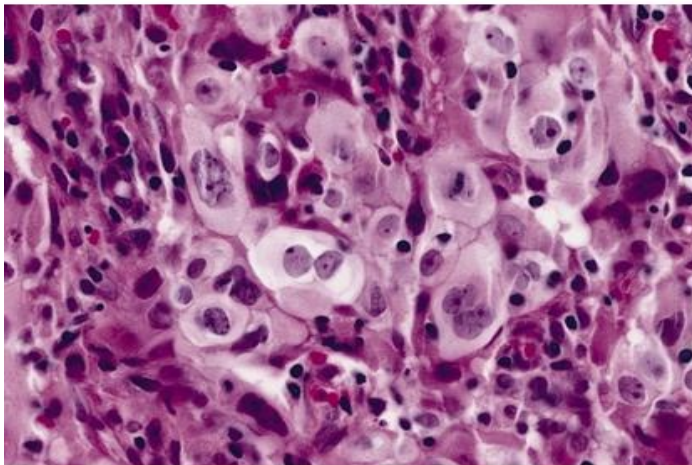
Big Picture: Types of Lung Cancer (~15 years ago...)



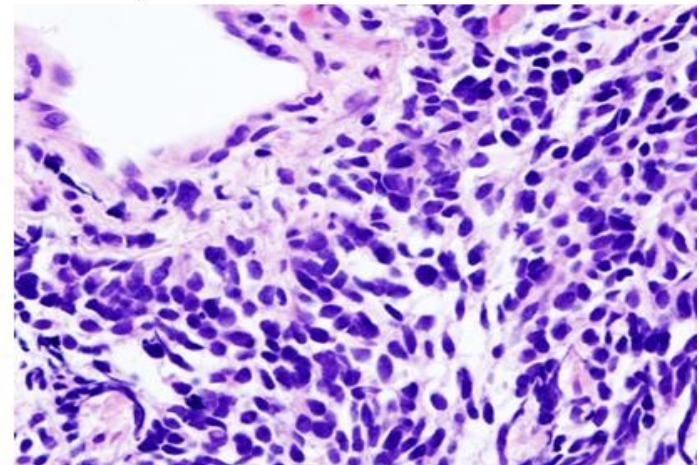
Adenocarcinoma



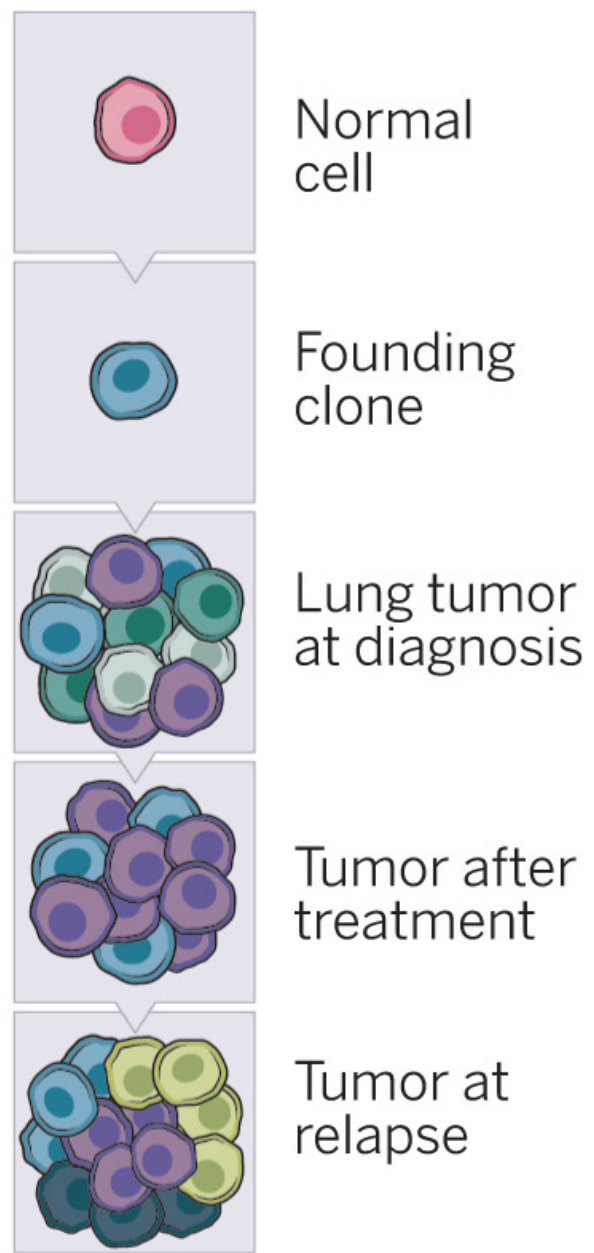
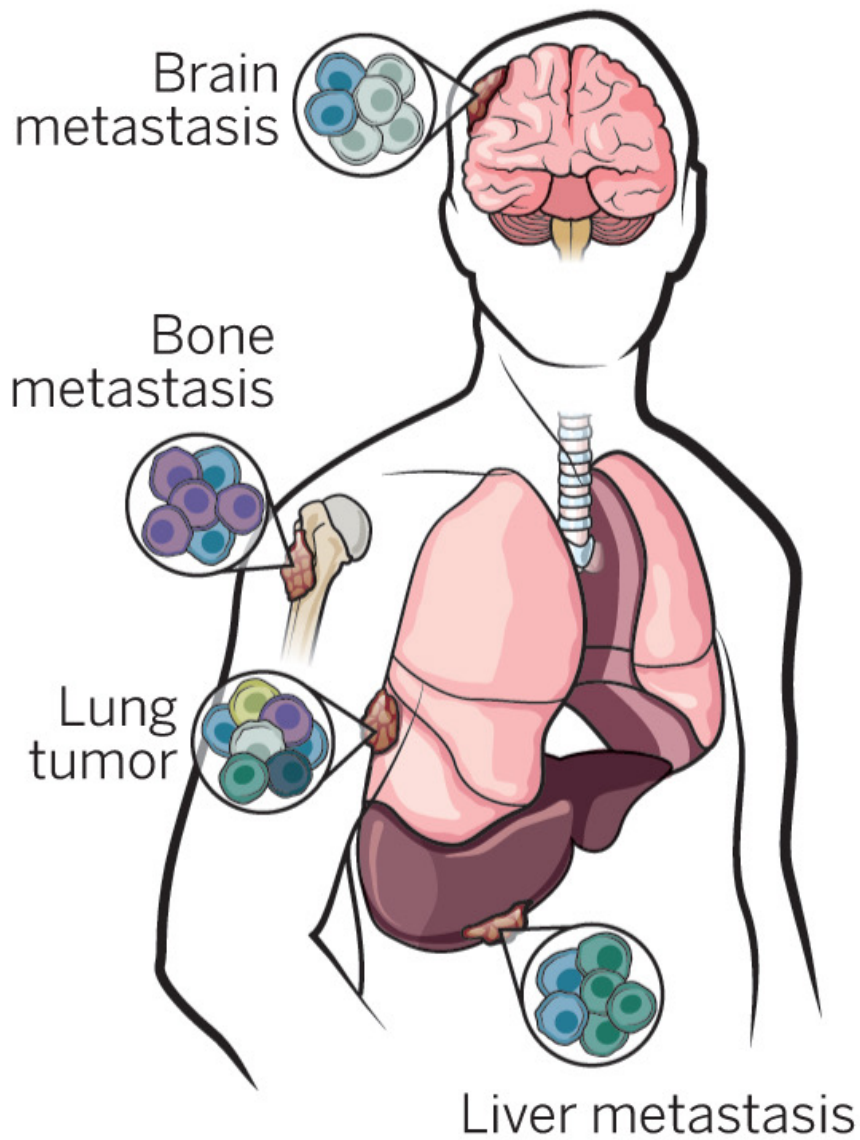
Squamous cell Carcinoma



Large Cell Tumor



Small Cell Lung Cancer

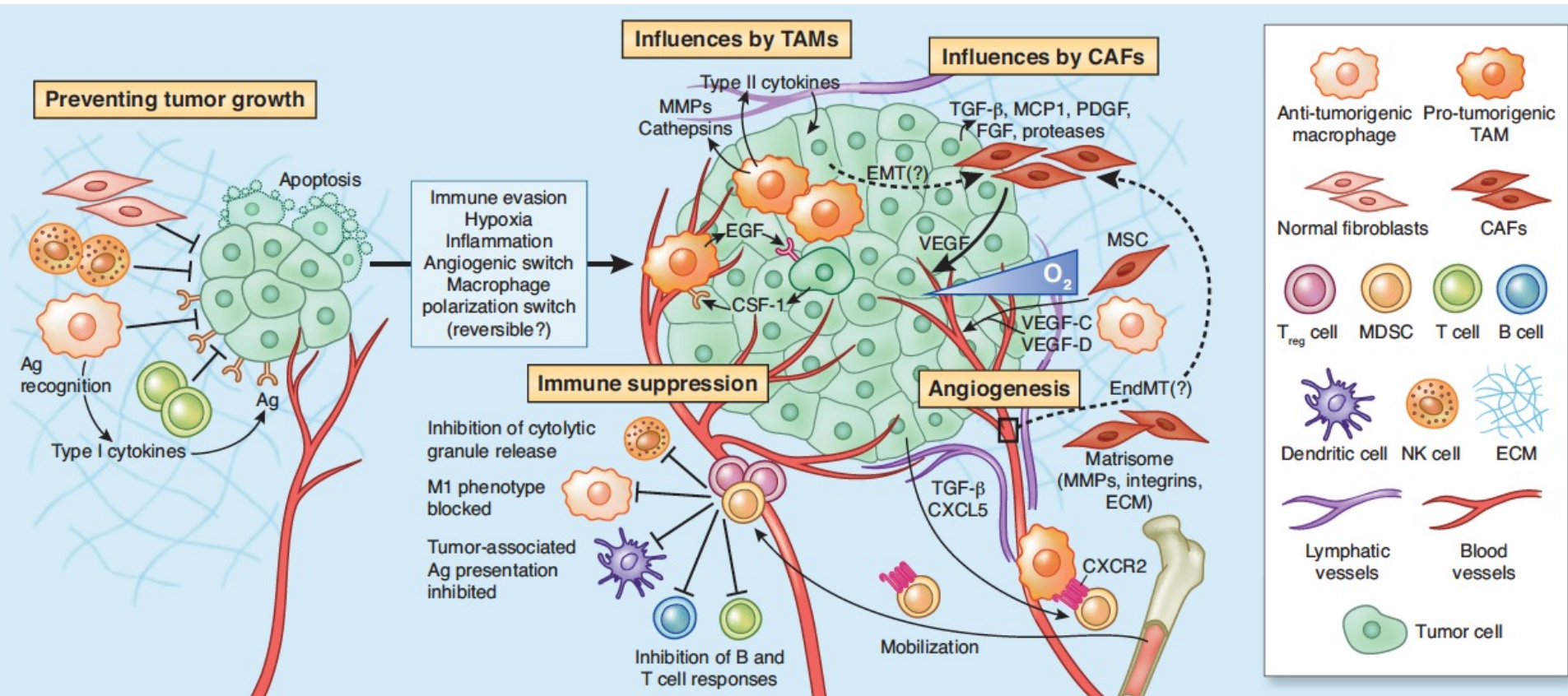


The Anatomy of Cancer

Where is the cancer?

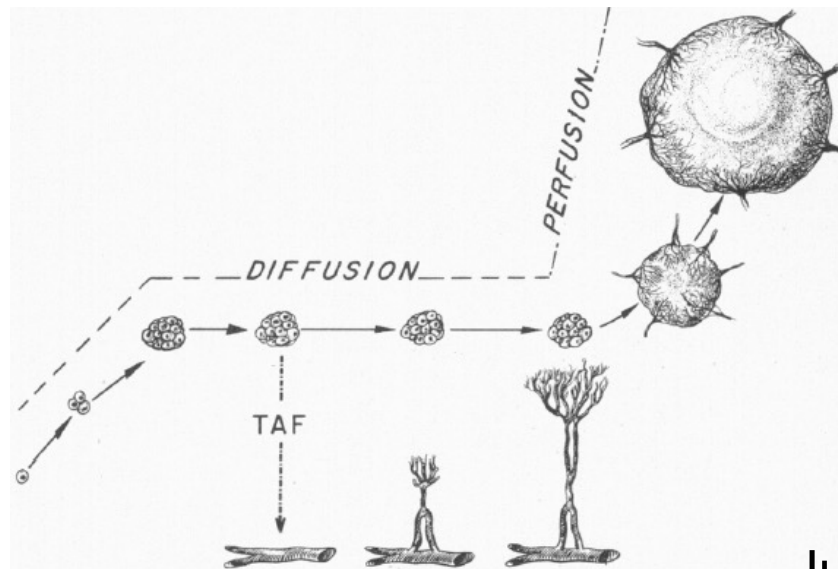


Tumor-Promoting Inflammation

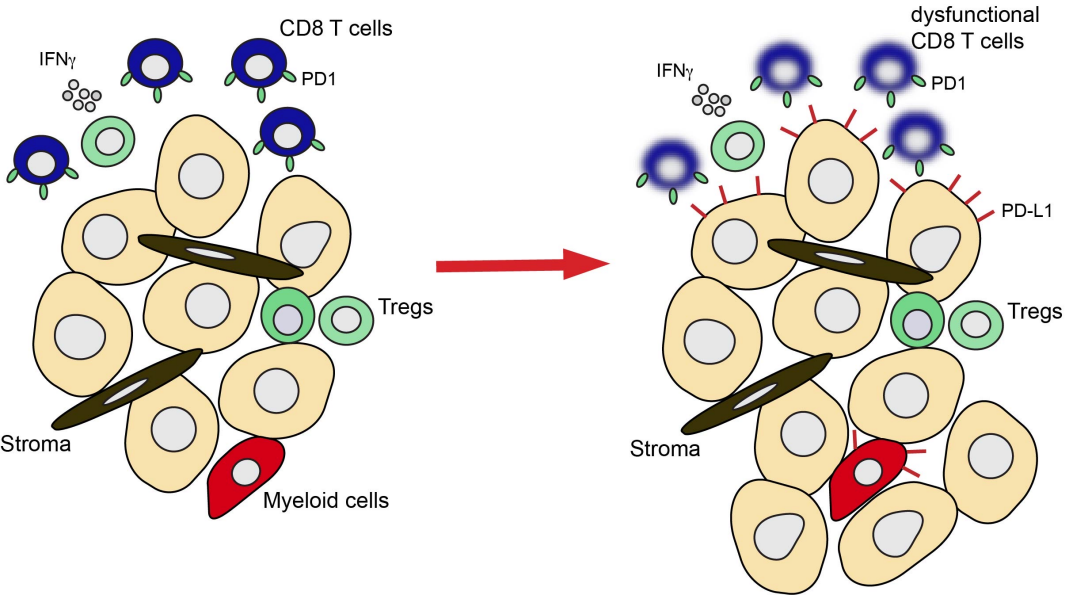


Tumor-Induced Angiogenesis

Tumors implanted into these organs grow rapidly to a diameter of 2 to 3 mm and then stop growing since they are unable to be vascularized because of artifacts unique to perfusion.^{12,13} A similar situation in vivo is observed when tiny tumors are implanted for more than one year in the anterior chamber of the eye of a guinea pig; these tumors do not enlarge beyond 2 to 3 mm.¹⁴ The tumors that exist in this dormant state have not become vascularized. When the tumors are removed from the eye after one year of this dormant existence and are then implanted in the muscle of a rabbit, however, rapid neovascularization is accompanied by rapid growth.



Immune Checkpoint Blockade



BP-SIY

Green YFP+ tumor cells
Red activated 2C T cells

BPC-SIY

Green YFP+ tumor cells
Red activated 2C T cells

BP-SIY

Green YFP+ tumor cells

Red 2C T cells

48h post T cell transfer

BP-SIY

Green YFP+ tumor cells

Red 2C T cells

120h post T cell transfer