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Malcolm C. Pike

Department of Preventive Medicine
USC/Norris Comprehensive Cancer Center
University of Southern California
Los Angeles

Ethnic Differences:

> **Prostate cancer in African Americans**

> **8q24 'explains' this and 'full' description came from studies of African Americans**

Gene–Environment Interactions

> **Colon cancer in Japanese Americans**

> **Breast cancer in Japanese Americans**

Risk factors

Breast Cancer:
      Mammographic density
      Postmenopausal estrogen levels
      Premenopausal progesterone levels
      Menopausal estrogen-progestin therapy

      Need for thorough understanding of what we know about the disease to interpret results (e.g. aromatase and postmenopausal estrogen levels as they relate to disease)

      How do births at a young age reduce breast cancer risk?
      How do mammographic densities increase risk?

Biology

Ovarian Cancer:

      Oral contraceptives provide major lifelong protection

      Estrogen increases risk

      Progestin more than blocks the increase

      Progestin needs to be decreased to prevent breast cancer

      Pharmacogenetic directed tx: OC types & dosing

        100 million women took the Pill today

       Biomarkers

         absorption/spotting/clotting

         effect on ovarian cancer target cell

         effect on breast cancer target cell