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### **Examining the relationship between diet-induced acidosis and cancer.**

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Increased cancer risk is associated with select dietary factors. Dietary lifestyles can alter systemic acid-base balance over time. Acidogenic diets, which are typically high in animal protein and salt and low in fruits and vegetables, can lead to a sub-clinical or low-grade state of metabolic acidosis. The relationship between diet and cancer risk prompts questions about the role of acidosis in the initiation and progression of cancer. Cancer is triggered by genetic and epigenetic perturbations in the normal cell, but it has become clear that microenvironmental and systemic factors exert modifying effects on cancer cell development. While there are no studies showing a direct link between diet-induced acidosis and cancer, acid-base disequilibrium has been shown to modulate molecular activity including adrenal glucocorticoid, insulin growth factor (IGF-1), and adipocyte cytokine signaling, dysregulated cellular metabolism, and osteoclast activation, which may serve as intermediary or downstream effectors of carcinogenesis or tumor promotion. In short, diet-induced acidosis may influence molecular activities at the cellular level that promote carcinogenesis or tumor progression. This review defines the relationship between dietary lifestyle and acid-base balance and discusses the potential consequences of diet-induced acidosis and cancer occurrence or progression.