

Early life influences on aging trajectories of stem cells and metabolism

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Organism aging leads to impairments in tissue maintenance and increases in disease development. Genetic studies from our lab indicate that growth and metabolism activity at early life influences aging trajectories of stem cells in later life. We propose that early life stress factors install a memory in stem cells and tissues that in turn influences aging by impairing metabolic functions, adaptive stress responses, and cell differentiation. Our data indicate that it is possible to reprogram metabolism and metabolic stress responses to a more youthful state by late life dietary interventions. Such interventions may have the capacity to ameliorate increases in cancer incidence during aging.