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Proper formation of the central nervous system requires generating the correct number of cells at precise times during development. In the fruit fly *Drosophila*, neural stem cells called neuroblasts divide throughout development to produce the neurons and glia that comprise the larval and adult nervous system. Neuroblast proliferation is sensitive to dietary nutrient availability and is regulated by these cues. Prolonged dietary nutrient deprivation halts development and induces a reversible quiescent state in neuroblasts. Reactivation of development and neuroblast proliferation occurs when amino acids are reintroduced to the larval diet. This provides an experimental system to examine how nutrient-induced developmental delay affects neuroblast proliferation and the adult neural structures derived from these cells. Previous work in our lab showed that neuroblasts in larvae reactivated from nutrient-induced quiescence exhibit reduced proliferation. This was measured as decreased numbers of mitotic neuroblasts and fewer daughter cells produced compared to uninterrupted control larvae, even though both groups had access to dietary nutrients for the same length of time. We hypothesize that these proliferation deficits could lead to lasting changes in adult brain structure. To test this idea, we are using confocal microscopy to quantify the morphology of several adult brain structures in animals that experienced a nutrient-induced developmental delay. This study investigates a relatively underexplored aspect of developmental plasticity in the central nervous system and establishes a foundation for understanding how early developmental delays influence adult brain architecture.