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Patients in the chronic phase of HIV infection typically show heightened activation and lowered counts of CD4+ (helper) T cells (the primary target of HIV) and heightened activation and heightened counts of CD8+ (killer) T cells. For many patients, upon initiation of highly active anti-retroviral therapy (HAART), viral loads become undetectable within six months and activation levels and counts return to normal within two years. As part of an ongoing retrospective study of data from the HIV/AIDS Clinic at the University of Massachusetts Medical School, we have analyzed CD4:CD8 ratios of patients with at least six years of virological and immunological response. While a majority of these patients have CD4 levels that plateau below normal, we have observed a continued immune response as measured by a sustained rise in CD4:CD8 ratio, which has not been reported in the literature. This is of potential clinical significance because it is counter to current clinical guidelines, which suggest that tracking CD4:CD8 ratios is not relevant. (Received February 06, 2011)