Stress affects different systems in the body, including the immune system and the endocrine system, and thereby affects the whole physiology. Stress is also linked to the habit of tobacco consumption and substance abuse, which in turn leads to disease states. Previous research has suggested that Sudarshan Kriya (SK) and Pranayama (P), rhythmic breathing processes derived from yoga, reduce stress and improve immune functions. In this study, the possible affect of SK&P on natural killer (NK) cells, a critical cell type in the immune system which helps fight pathogens and cancer, was assessed in cancer patients who completed their standard therapy. SK&P practice correlated with increases in NK cell numbers, but not in the number of other immune cells. Furthermore, SK&P helped to reduce tobacco use in 21% of the individuals at 6 months of practice. Larger and randomized studies are needed, but these findings suggest that SK&P may help boost the immune system in cancer patients.