Let $t$ be a positive integer. The generating function for the number of $t$-core partitions of $n$ is

$$
\sum_{n=0}^{\infty} a_t(n)q^n = \prod_{n=1}^{\infty} \frac{(1 - q^n)^t}{1 - q^n}.
$$

Stanton conjectured that for all $t \geq 4$,

$$a_{t+1}(n) \geq a_t(n),$$

for all $n \geq t + 1$. In this talk, by using an explicit upper bound for the number of $t$-core partitions, we show Stanton’s conjecture is true for small $t$’s. (Received September 21, 2009)