The HyperCP experiment (FNAL E871) has collected a large sample of hyperon decays. We have performed a search for $\Delta S = 2$ nonleptonic hyperon decays based on a sample of 20 million Ω^- decays. Branching ratio limits will be presented for $\Omega^- \to \Lambda\pi^-$and $\Xi^0 \to p\pi^-$, where the Ξ^0 comes from a $\Omega^- \to \Xi^0\pi^-$decay. These limits are a significant improvement over the current PDG limits.