Barwick proved that the $K$-theory of a stable infinity-category with a bounded $t$-structure agrees with the $K$-theory of its heart in non-negative degrees. Joint work with David Gepner and Jeremiah Heller extends this to an equivalence of nonconnective $K$-theory spectra when the heart satisfies certain finiteness conditions such as noetherianity. Applications to negative $K$-theory and homotopy $K$-theory of ring spectra are provided, which were the original motivation for our work.