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Ciprian Manolescu and **Lisa Piccirillo*** (piccirli@mit.edu). *From 0-surgery homeomorphisms to candidates for exotic definite 4-manifolds.*

One strategy for distinguishing smooth structures on closed 4-manifolds is to produce a knot K in S^3 that is slice in one smooth filling W of S^3 but not slice in some homeomorphic smooth filling W' . In this paper we explore how 0-surgery homeomorphisms can be used to potentially construct exotic pairs of this form. In order to systematically generate a plethora of candidates, we give a fully general construction of pairs of knots with the same zero surgeries. By computer experimentation, we find 21 algebraically slice knots such that, if any of them were slice, we would obtain an exotic four-sphere. We also investigate the possibility of constructing exotic smooth structures on $\#^n \mathbb{C}P^2$ in a similar fashion. (Received January 17, 2021)