On slice knots in 4-manifolds

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Let M be a closed oriented 4-manifold and L be an n-component link in $M - \mathrm{int}B^4$. L is called a *topologically slice link* in M if L bounds n topologically embedded flat 2-disks in $M - \mathrm{int}B^4$. A 1-component topologically slice link is called *topologically slice knot.* For example, every knot is a topologically slice knot in $S^2 \times S^2$ and every knot with trivial Alexander polynomial is a topologically slice knot in S^4. However, every knot with nontrivial signature is not a topologically slice knot in S^4. In this talk, we show that a punctured M admits at least two smooth strucutures if there exists a topologically slice knot which is not a slice knot in M. As a corollary, we show that the punctured CP^2 admits at least two smooth structures.