1073-57-116   **David Gay** and **Thomas E Mark***, tmark@virginia.edu. *Lefschetz fibrations, convexity, and symplectic surgeries.*

A sequence of Dehn twists on a surface with boundary describes a Lefschetz fibration W whose boundary has a natural open book structure. The monodromy of the open book is the composition ϕ of the Dehn twists, but if ϕ admits another expression as a composition of twists then we get another Lefschetz fibration W' bounding the same open book. This leads to cut-and-paste operations on 4-manifolds, where W is replaced by W'. Under appropriate circumstances this operation may be performed symplectically, and this leads to a new proof that rational blowdowns are symplectic as well as some potentially useful new symplectic surgeries. (Received July 29, 2011)