Heegaard genus and Dehn filling

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Abstract. (This is joint work with Ken Baker and John Luecke.) The context of the talk is the general question of the behavior of Heegaard genus under two distinct Dehn fillings on a 3-manifold with torus boundary; more specifically we consider the case where one of the fillings is S^3. The result is that there is a function $w(g)$ such that if K is a hyperbolic knot in S^3, and some non-integral Dehn surgery on K gives a non-Haken manifold of Heegaard genus g, then the tunnel number of K is at most $w(g)$. We will also discuss the special case $g = 2$ and its relevance to the conjecture that any Seifert fibered Dehn surgery on a hyperbolic knot in S^3 must be integral.