1007-20-175 **Daniel P Groves*** (groves@caltech.edu), Mathematics 253-37, Caltech, Pasadena, CA 91125, and **Jason F. Manning** (manning@caltech.edu), Mathematics 253-37, Caltech, Pasadena, CA 91125. *A Dehn surgery theorem for relatively hyperbolic groups.*

We give a group-theoretic analogue of the Gromov-Thurston 2π Theorem for hyperbolic 3-manifolds. Specifically, if Γ is a torsion-free group which is hyperbolic relative to a free abelian rank 2 subgroup P, then for all but finitely many primitive elements p of P, the group $\Gamma/\langle\langle p \rangle\rangle$ is infinite, non-elementary and word-hyperbolic. (Received February 20, 2005)