

Genes and MS in Tasmania, cont.

Lecture 6, Statistics 246
February 5, 2004

Nature and numbr of relatives needed to give accurate haplotypes

Exercise. Explain why it is that when we have both sets of parental genotypes, and the markers are reasonably polymorphic, we can reconstruct an individual's haplotypes with high probability. What are the difficult cases?

If we have no parents, or just one parent, and grandparents', siblings' or offsprings' genotypes are available, which are most informative for an individual's haplotype reconstruction?

Simulation Study

Simulated many different types of pedigrees 300 times each to see which constellations of relatives give the best opportunity of being able to reconstruct haplotypes correctly.

Ranking the contributions in order of importance (assuming that the proband has been genotyped):

1. Parents
2. Grandparents & Siblings
3. Offspring