

Description of Additional Supplementary Files

Supplementary Data 1. Study populations and phenotype characterization

Supplementary Data 2. The lead variants at the 88 LSS-associated loci observed in the meta-analysis

Supplementary Data 3. Structural information about lead variants and potential candidate genes

Supplementary Data 4. Cohort level odds ratios and effect allele frequencies for LSS meta-analysis

Supplementary Data 5. Finemapping results

Supplementary Data 6. Heritability estimation

Supplementary Data 7. The lead variants at 32 loci associated with LSS requiring surgical treatment

Supplementary Data 8. Cohort level odds ratios and effect allele frequencies for surgical meta-analysis

Supplementary Data 9. Effect estimate differences between meta-analysis and surgical meta-analysis

Supplementary Data 10. FastBAT results

Supplementary Data 11. MAGMA gene-based test

Supplementary Data 12. Colocalization results

Supplementary Data 13. Cumulative morbidities and age differences between lead variant homozygotes

Supplementary Data 14 GATE results

Supplementary Data 15. Genetic correlations between LSS and 849 other traits

Supplementary Data 16. Mendelian randomization results

Supplementary Data 17. Mendelian randomization risk factors

Supplementary Data 18. Leave-one-out analysis