

**Supplemental Material S5.** Mixed models for talking with and without confounding variables.

| Model                          | AIC              | BIC      | Effect†               | Estimate ± SE   | p value  |
|--------------------------------|------------------|----------|-----------------------|-----------------|----------|
| No confounding variables       | 1521             | 1523     | Intercept             | 65.976 ± 4.823  | < .0001* |
|                                |                  |          | Group                 |                 | .4091    |
|                                |                  |          | Therapy               | 18.562 ± 6.100  |          |
|                                |                  |          | Counseling            | 20.218 ± 6.288  |          |
|                                |                  |          | Evaluation            | Reference       |          |
|                                |                  |          | Time                  |                 | < .0001* |
|                                |                  |          | Baseline              | Reference       |          |
|                                |                  |          | Voice rest            | -35.452 ± 6.820 |          |
|                                |                  |          | Group × Time          |                 | .0024*   |
|                                |                  |          | Confounding variables | 1446            | 1449     |
| Age                            | 0.116 ± 0.141    | .4131    |                       |                 |          |
| Diagnosis                      |                  | .8782    |                       |                 |          |
| Paralysis                      | Reference        |          |                       |                 |          |
| Scar                           | 2.079 ± 17.064   |          |                       |                 |          |
| Glottal insufficiency          | -3.167 ± 7.497   |          |                       |                 |          |
| Leukoplakia                    | 19.380 ± 23.211  |          |                       |                 |          |
| Reinke's edema                 | 16.609 ± 23.695  |          |                       |                 |          |
| RRP                            | 21.863 ± 24.310  |          |                       |                 |          |
| Mass lesion                    | 1.958 ± 18.367   |          |                       |                 |          |
| Multiple diagnoses: Yes vs. No | 4.003 ± 5.016    | .4272    |                       |                 |          |
| Procedure                      |                  | .6982    |                       |                 |          |
| Biopsy                         | -8.381 ± 20.295  |          |                       |                 |          |
| KTP laser                      | -22.856 ± 22.556 |          |                       |                 |          |
| Steroid                        | -10.840 ± 16.950 |          |                       |                 |          |
| Laryngoplasty                  | Reference        |          |                       |                 |          |
| Prior procedures               | 0.702 ± 0.357    | .0525    |                       |                 |          |
| GRBAS G                        | 2.149 ± 2.972    | .4717    |                       |                 |          |
| VHI                            | 0.028 ± 0.097    | .7747    |                       |                 |          |
| EAT-10                         | -0.385 ± 0.272   | .1604    |                       |                 |          |
| Group                          |                  | .2224    |                       |                 |          |
| Therapy                        | 18.925 ± 6.878   |          |                       |                 |          |
| Counseling                     | 24.246 ± 7.053   |          |                       |                 |          |
| Evaluation                     | Reference        |          |                       |                 |          |
| Time                           |                  | < .0001* |                       |                 |          |
| Baseline                       | Reference        |          |                       |                 |          |
| Voice rest                     | -35.452 ± 6.757  |          |                       |                 |          |
| Group × Time                   |                  | .0022*   |                       |                 |          |

*Note.* AIC = Akaike information criterion; BIC = Bayesian information criterion; RRP = recurrent respiratory papillomatosis; KTP = potassium titanyl phosphate; GRBAS = Grade, Roughness, Breathiness, Asthenia, Severity scale, range 0-3; VHI = Voice Handicap Index total score, range 0-120; EAT-10 = Eating Assessment Tool, range 0-40. \* $p < .05$  for Type 3 effect in mixed models with Talking as the response variable and participant as repeated measures. †Main effects of Group and Time should be interpreted cautiously in the context of significant Group × Time interaction effects.