

Supplementary

**Table S1** Demographic, clinical, and surgical characteristics of 128 patients undergoing Tonsillectomy at Waikato Hospital between January 2022 and September 2023, included in the study

| Variable                    | Subgroup                         | Total (n=128)            | ECT (n=60)      | CICT (n=68)     | P      |
|-----------------------------|----------------------------------|--------------------------|-----------------|-----------------|--------|
| Age (years)*                |                                  | 8.2±6.0                  | 10.8±7.1        | 6.2±3.9         | <0.001 |
| Sex†                        | M                                | 67 (52.3%)               | 27 (45.0%)      | 40 (58.8%)      | 0.118  |
|                             | F                                | 61 (47.7%)               | 33 (55.0%)      | 28 (41.2%)      |        |
| Ethnicity†                  | NZ European                      | 42 (32.8%)               | 23 (38.3%)      | 19 (27.9%)      | 0.467  |
|                             | Māori                            | 63 (49.2%)               | 29 (48.3%)      | 34 (50.0%)      |        |
|                             | Pasifika                         | 6 (4.7%)                 | 3 (5.0%)        | 3 (4.4%)        |        |
|                             | Other European                   | 8 (6.3%)                 | 3 (5.0%)        | 5 (7.4%)        |        |
|                             | Other                            | 9 (7.0%)                 | 2 (3.3%)        | 7 (10.3%)       |        |
| ASA†                        | 1                                | 31 (24.2%)               | 15 (25.0%)      | 16 (23.5%)      | 0.663  |
|                             | 2                                | 85 (66.4%)               | 38 (63.3%)      | 47 (69.1%)      |        |
|                             | 3                                | 11 (8.6%)                | 6 (10.0%)       | 5 (7.4%)        |        |
|                             | 4                                | 1 (0.8%)                 | 1 (1.7%)        | 0 (0%)          |        |
| NZ Deprivation Score†       | ≤5                               | 33 (25.8%)               | 17 (28.3%)      | 16 (23.5%)      | 0.535  |
|                             | ≥6                               | 95 (74.2%)               | 43 (71.1%)      | 52 (76.5%)      |        |
| Year of Operation†          | 2022                             | 64 (50.0%)               | 40 (66.7%)      | 24 (35.3%)      | <0.001 |
|                             | 2023                             | 64 (50.0%)               | 20 (33.3%)      | 44 (64.7%)      |        |
| Distance of Travel          |                                  | 36.26±43.79              | 41.5±45.4       | 31.6 (42.1%)    | 0.204  |
| Time of Travel              |                                  | 35.33±36.56              | 39.7±39.0       | 31.5 (34.1%)    | 0.21   |
| More than 1 hour away†      | No                               | 106 (82.8%)              | 48 (80.0%)      | 58 (85.3%)      | 0.428  |
|                             | Yes                              | 22 (17.2%)               | 12 (20.0%)      | 10 (14.7%)      |        |
| Length of Stay†             | 0                                | 3 (2.4%)                 | 21 (35.0%)      | 29 (42.6%)      | 0.558  |
|                             | 1                                | 3 (2.4%)                 | 37 (61.7%)      | 38 (55.9%)      |        |
|                             | ≥2                               | 3 (2.4%)                 | 2 (2.4%)        | 1 (1.5%)        |        |
| Surgery Duration*           |                                  | 31.1±14.3                | 29±15.0         | 33±13.4         | 0.118  |
| Anaesthetic Time*           |                                  | 40.3±21.1                | 40.9±22.6       | 39.3±19.8       | 0.607  |
| Time in PACU*               |                                  | 149.4±99.5               | 143.8±93.1      | 154.3±105.1     | 0.553  |
| Surgeon†                    | Consultant                       | 26 (20.3%)               | 14 (23.3%)      | 12 (17.6%)      | 0.511  |
|                             | Registrar                        | 102 (79.7%)              | 46 (76.7%)      | 56 (82.4%)      |        |
| Diagnosis†                  | Recurrent Tonsillitis            | 20 (15.6%)               | 17 (28.3%)      | 3 (4.4%)        | <0.001 |
|                             | Recurrent Tonsillitis + SDB      | 32 (25.0%)               | 20 (33.3%)      | 12 (17.6%)      |        |
|                             | SDB                              | 76 (59.4%)               | 23 (38.3%)      | 53 (77.9%)      |        |
| Surgery†                    | T                                | 26 (20.3%)               | 18 (30.0%)      | 8 (11.8%)       | 0.001  |
|                             | T+A                              | 72 (56.3%)               | 35 (58.3%)      | 37 (54.4%)      |        |
|                             | T+A+TT                           | 29 (22.7%)               | 6 (10.0%)       | 23 (33.8%)      |        |
|                             | T+TT                             | 1 (0.8%)                 | 1 (1.7%)        | 0 (0%)          |        |
| Method of Tonsillectomy     | BPD                              | 22 (17.2%)               | 22 (36.7%)      | 0 (0%)          | N/A    |
|                             | Cold Steel                       | 34 (26.6%)               | 34 (56.7%)      | 0 (0%)          |        |
|                             | BiZact                           | 4 (3.1%)                 | 4 (6.7%)        | 0 (0%)          |        |
|                             | CICT                             | 68 (53.1%)               | 0 (0%)          | 68 (100%)       |        |
|                             | Extra-Capsular<br>Intra-Capsular | 60 (46.9%)<br>68 (53.1%) |                 |                 |        |
| Complication‡               | No                               | 116 (90.6%)              | 50 (58.3%)      | 66 (97.1%)      | 0.012  |
|                             | PTP                              | 5 (3.9%)                 | 4 (6.7%)        | 1 (1.5%)        |        |
|                             | PTH no OT                        | 6 (4.7%)                 | 5 (8.3%)        | 1 (1.5%)        |        |
|                             | PTH OT                           | 1 (0.8%)                 | 1 (1.7%)        | 0 (0%)          |        |
| Cost of Surgery (NZ\$)      |                                  | 6872.73±1298.86          | 6743.00±1524.62 | 6987.2±1059.5   | -      |
| Cost Of Complication (NZ\$) |                                  | 233.89±914.10            | 451.38±1272.06  | 42.00±281.42    | -      |
| Total Cost (NZ\$)           |                                  | 7106.62±1722.25          | 7194.38±2231.10 | 7029.19±1107.24 | -      |

Data are presented as mean ± standard deviation or n (%). \* Student t-test. †  $\chi^2$  test. ‡ Fisher’s exact test.

**Table S2** Result of univariate analysis, looking at the impact of different demographic, clinical, and surgical variables on the overall treatment cost for tonsillectomy amongst patients undergoing tonsillectomy at Waikato Hospital between January 2022 and September 2023 who were included in the study

| Variable                 | Subgroup                    | Mean cost ± SD (NZ\$) | Pearson r/MD (NZ\$) | 95% CI                  | P      |
|--------------------------|-----------------------------|-----------------------|---------------------|-------------------------|--------|
| Age*                     |                             |                       | -\$0.09             | -\$0.26 to \$0.09       | 0.327  |
| Sex†                     | M                           | \$7138.25±1751.32     | \$66.36             | -\$557.30 to \$657.29   | 0.835  |
|                          | F                           | \$7071.89±1703.57     | Ref                 |                         |        |
| Ethnicity†               | NZ European                 | \$7035.24±1631.31     | -\$78.79            | -\$808.88 to \$651.30   | 0.831  |
|                          | Māori                       | \$7114.03±1978.26     | Ref                 |                         |        |
|                          | Pasifika                    | \$7301.08±1447.44     | \$187.05            | -\$1844.58 to \$1470.47 |        |
|                          | Other European              | \$7284.57±938.67      | \$170.51            | -\$1592.38 to \$1251.30 |        |
|                          | Other                       | \$7100.08±975.52      | -\$13.95            | -\$1329.84 to \$1357.75 |        |
| ASA group†               | 1 to 2                      | \$7013.55±1517.10     | Ref                 |                         | 0.057  |
|                          | 3 to 4                      | \$8006.34±3034.62     | \$992.79            | -\$516.81 to \$2015.54  |        |
| NZ Deprivation Score †   | ≤5                          | \$7071.4±1678.43      | -\$47.46            | -\$643.91 to \$738.82   | 0.892  |
|                          | ≥6                          | \$7118.86±1745.81     | Ref                 |                         |        |
| Year of Operation †      | 2022                        | \$7131.25±2057.74     | Ref                 |                         | 0.872  |
|                          | 2023                        | \$7081.99±1325.51     | -\$49.26            | -\$654.09 to \$555.56   |        |
| Distance of Travel (km)* |                             |                       | \$0.1               | -\$0.08 to \$0.26       | 0.288  |
| Time of Travel (min)*    |                             |                       | \$0.08              | -\$0.1 to \$0.25        | 0.371  |
| Resides > 1 hour away? † | No                          | \$7041.15 ±1669.26    | Ref                 |                         | 0.347  |
|                          | Yes                         | \$7422.08±1969.80     | -\$380.93           | -\$1179.77 to \$417.92  |        |
| Length of Stay (days) †  | 0                           | \$6343.15±862.92      | Ref                 |                         | <0.001 |
|                          | 1                           | \$7475.93±1805.67     | \$1132.78           | \$589.7 to \$1675.86    |        |
|                          | ≥2                          | \$10598.39±3390.37    | \$4255.24           | \$2966.54 to \$5543.94  |        |
| Surgery Duration (min)*  |                             |                       | \$0.53              | \$0.39 to \$0.64        | <0.001 |
| Anesthetic Time (min)*   |                             |                       | \$0.49              | \$0.34 to \$0.61        | <0.001 |
| Time in PACU (min)*      |                             |                       | -\$0.04             | -\$0.21 to \$0.14       | 0.657  |
| Surgeon †                | Specialist                  | \$7091.5±2227.61      | Ref                 |                         | 0.96   |
|                          | Trainee                     | \$7110.48±1581.57     | \$18.97             | -\$770.71 to \$732.77   |        |
| Diagnosis †              | Recurrent Tonsillitis       | \$6665.71±920.73      | Ref                 |                         | 0.174  |
|                          | Recurrent Tonsillitis + SDB | \$7285.66±1870.32     | \$619.65            | -\$1523.56 to \$283.66  |        |
|                          | SDB                         | \$7147.27±1815.17     | \$481.55            | -\$1316.55 to \$353.44  |        |
| Surgery †                | T                           | \$6444.15±944.53      | Ref                 |                         | 0.097  |
|                          | T+A                         | \$6912.46±1303.12     | \$468.31            | -\$85.75 to \$1022.36   |        |
|                          | T+A+TT                      | \$7957.06±2359.93     | \$1512.91           | \$519.48 to \$2506.35   |        |
|                          | T+TT                        | \$13,648.18           | \$7204.03           | \$5221.67 to \$9186.39  |        |
| Method of Tonsillectomy† | BPD                         | \$7638.73±2671.77     | \$609.54            | -\$181.98 to \$1401.06  | 0.13   |
|                          | Cold Steel                  | \$7133.79±1939.84     | \$104.6             | -\$493.96 to \$703.17   |        |
|                          | BiZact                      | \$5265.54±291.90      | -\$1763.64          | -\$2876.93 to -\$650.36 |        |
|                          | CICT                        | \$7029.19±1107.24     | Ref                 |                         |        |
|                          | Extra-Capsular              | \$7194.38±2231.10     | \$165.2             | -\$440.18 to \$770.57   |        |
|                          | Intra-Capsular              | \$7029.19±1107.24     | Ref                 |                         |        |
| Complication†            | No                          | \$6770.82±1069.26     | Ref                 |                         | <0.001 |
|                          | Yes                         | \$10343.05±3111.93    | \$3571.23           | \$2746.46 to \$4395.99  |        |

\* Pearson’s correlation coefficient. † Student’s t-test.