Appendix Table 1. Grading of postoperative shivering

| Grade | Definition                                           |
|-------|-----------------------------------------------------|
| 0     | No shivering                                        |
| 1     | Mild fasciculation of face or neck                  |
| 2     | Visible tremor involving more than one muscle group |
| 3     | Generalized shaking                                 |

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Appendix Table 2a) and 2b). Associations of operating theatre (OT) starting temperature by age category and surgery duration by active vs. passive warming

(a) OT temperature at the start of surgery by age category, count (%)

| Age category | Starting OT temperature (°C) |  |  |  | Total |
|--------------|------------------------------|---|---|---|-------|
|               | <21                          | 21-<23 | 23-<25 | ≥25 |       |
| 1: ≤1 yr     | 3 (3.8)                      | 8 (10.3) | 36 (46.2) | 31 (39.7) | 78    |
| 2: >1 - 5 yr | 17 (7.02)                    | 43 (17.8) | 107 (44.2) | 75 (30.9) | 242   |
| 3: >5 - 10 yr| 22 (7.86)                    | 58 (20.7) | 138 (49.3) | 62 (22.1) | 280   |
| 4: >10 - <16 yr| 23 (8.58)                  | 66 (24.6) | 119 (44.4) | 60 (22.4) | 268   |
| Total        | 65 (25.2)                    | 175 (24.6) | 400 (44.4) | 228 (22.4) | 868   |

Chi-square p = 0.013

(b) Surgery duration tertile by active and passive warming, count (%)

| Surgery Duration Tertile | Warm active |                      |                      |                      |       |
|--------------------------|-------------|----------------------|----------------------|----------------------|-------|
|                          | 0           | 1                    | Total                |                      |       |
| 1                        | 73 (25.2)   | 217 (74.8)           | 290                  |                      |       |
| 2                        | 40 (15.5)   | 218 (84.5)           | 258                  |                      |       |
| 3                        | 25 (8.42)   | 272 (91.6)           | 297                  |                      |       |
| Total                    | 138         | 707                  | 845                  |                      |       |

Frequency Missing = 24

| Statistic | DF | Value | P-value |
|-----------|----|-------|---------|
| Chi-Square| 2  | 30.3  | <0.001  |

Statistic | DF | Value | P-value |
|-----------|----|-------|---------|
| Chi-Square| 2  | 1.52  | 0.468   |
## Appendix Table 3. Clinician responses to survey questions regarding hypothermia by study group

| Survey Question                                                                 | Total (n=43) | Normothermic (n=38) | Hypothermic (n=5) | P-value* |
|-------------------------------------------------------------------------------|--------------|---------------------|-------------------|----------|
| Do you think IPH is a problem in your practice? n (%)                         |              |                     |                   | 0.567    |
|       Yes                                                                      | 35 (83.3)    | 30 (81.1)           | 5 (100)           |          |
|       No                                                                       | 6 (14.3)     | 6 (16.2)            | 0 (0)             |          |
|       Maybe                                                                    | 1 (2.38)     | 1 (2.7)             | 0 (0)             |          |
| Will you take measures to prevent IPH? n (%)                                  |              |                     |                   | 1.00     |
|       Yes                                                                      | 42 (97.7)    | 37 (97.4)           | 5 (100)           |          |
|       No                                                                       | 1 (2.33)     | 1 (2.63)            | 0 (0)             |          |
|       Maybe                                                                    | 0            |                     |                   |          |
| Are you aware of guidelines regarding IPH? n (%)                              |              |                     |                   | 0.222    |
|       Yes                                                                      | 41 (95.4)    | 37 (97.4)           | 4 (80.0)          |          |
|       No                                                                       | 2 (4.65)     | 1 (2.63)            | 1 (20.0)          |          |
|       Maybe                                                                    | 0            |                     |                   |          |

* Fisher’s exact test
### Appendix Table 4. Fitted predictive model variables and coefficients

| Parameter                                                                 | Coeff. | Std. Error | P-value |
|--------------------------------------------------------------------------|--------|------------|---------|
| Intercept                                                                | 4.0931 | 1.8401     | 0.026   |
| Intra-OP temperature monitoring (Y=1/N=0)                                | -0.7150| 0.2813     | 0.011   |
| Active warming, Bair Hugger (Y=1/N=0)                                    | -0.8688| 0.2578     | 0.001   |
| OT temp, start of surgery (°C)                                            | -0.1918| 0.0744     | 0.010   |
| Type of Surgery (Elective=1/Emergency=0)                                 | -0.8378| 0.3774     | 0.026   |
| Passive warming, occlusive (Y=1/N=0)                                     | -1.0448| 0.4478     | 0.020   |
| Weight (kg)                                                              | -0.0145| 0.0068     | 0.034   |

1 Coefficients are listed in order of model entry from most to least significant as selected by the stepwise selection algorithm. No variables were removed from the model after having been entered.
### Appendix Table 5. ROC curves based on predicted probabilities of hypothermia and associated statistics

#### (a) Non-cross-validated ROC

| Pred. Prob | ROC statistics | Youden J-Index |
|------------|----------------|----------------|
|            | Sens | Spec | PPV | NPV | FP | FN |        |
| 0.03       | 0.989 | 0.103 | 0.129 | 0.985 | 0.871 | 0.015 | 0.092 |
| 0.04       | 0.975 | 0.176 | 0.138 | 0.981 | 0.863 | 0.019 | 0.151 |
| 0.05       | 0.961 | 0.230 | 0.144 | 0.978 | 0.856 | 0.022 | 0.191 |
| 0.06       | 0.952 | 0.293 | 0.154 | 0.978 | 0.846 | 0.022 | 0.245 |
| 0.07       | 0.912 | 0.367 | 0.163 | 0.969 | 0.837 | 0.031 | 0.279 |
| 0.08       | 0.872 | 0.432 | 0.171 | 0.962 | 0.829 | 0.038 | 0.304 |
| 0.09       | 0.811 | 0.489 | 0.176 | 0.951 | 0.824 | 0.049 | 0.300 |
| 0.10       | 0.752 | 0.538 | 0.180 | 0.942 | 0.820 | 0.058 | 0.290 |
| 0.11       | 0.694 | 0.581 | 0.182 | 0.934 | 0.818 | 0.066 | 0.275 |
| 0.12       | 0.673 | 0.601 | 0.189 | 0.932 | 0.811 | 0.068 | 0.274 |
| 0.13       | 0.618 | 0.660 | 0.197 | 0.928 | 0.803 | 0.072 | 0.279 |
| 0.14       | 0.579 | 0.703 | 0.208 | 0.925 | 0.792 | 0.075 | 0.282 |
| 0.15       | 0.525 | 0.741 | 0.215 | 0.921 | 0.785 | 0.079 | 0.267 |
| 0.16       | 0.468 | 0.773 | 0.218 | 0.915 | 0.782 | 0.085 | 0.242 |
| 0.17       | 0.448 | 0.803 | 0.235 | 0.915 | 0.765 | 0.085 | 0.252 |
| 0.18       | 0.419 | 0.834 | 0.254 | 0.914 | 0.746 | 0.086 | 0.253 |
| 0.19       | 0.365 | 0.859 | 0.259 | 0.909 | 0.741 | 0.091 | 0.225 |
| 0.20       | 0.339 | 0.874 | 0.266 | 0.908 | 0.734 | 0.092 | 0.213 |

*Youden index maximum

#### (b) Cross-validated ROC curve

| Pred. Prob | ROC statistics | Youden J-Index |
|------------|----------------|----------------|
|            | Sens | Spec | PPV | NPV | FP | FN |        |
| 0.03       | 0.982 | 0.101 | 0.128 | 0.976 | 0.872 | 0.024 | 0.082 |
| 0.04       | 0.964 | 0.174 | 0.136 | 0.973 | 0.864 | 0.027 | 0.138 |
| 0.05       | 0.953 | 0.228 | 0.143 | 0.973 | 0.857 | 0.027 | 0.181 |
| 0.06       | 0.931 | 0.291 | 0.150 | 0.969 | 0.850 | 0.031 | 0.222 |
| 0.07       | 0.880 | 0.364 | 0.157 | 0.957 | 0.843 | 0.043 | 0.243 |
| 0.08       | 0.803 | 0.423 | 0.158 | 0.941 | 0.842 | 0.059 | 0.226 |
| 0.09       | 0.749 | 0.481 | 0.163 | 0.934 | 0.837 | 0.066 | 0.230 |
| 0.10       | 0.713 | 0.533 | 0.171 | 0.932 | 0.829 | 0.068 | 0.246 |
| 0.11       | 0.661 | 0.578 | 0.174 | 0.927 | 0.826 | 0.073 | 0.239 |
| 0.12       | 0.622 | 0.622 | 0.182 | 0.924 | 0.824 | 0.076 | 0.245 |
| 0.13       | 0.594 | 0.657 | 0.189 | 0.923 | 0.811 | 0.077 | 0.251 |
| 0.14       | 0.553 | 0.695 | 0.197 | 0.920 | 0.803 | 0.080 | 0.248 |
| 0.15       | 0.509 | 0.736 | 0.206 | 0.918 | 0.794 | 0.082 | 0.245 |
| 0.16       | 0.454 | 0.771 | 0.210 | 0.913 | 0.790 | 0.087 | 0.224 |
| 0.17       | 0.425 | 0.803 | 0.225 | 0.912 | 0.775 | 0.088 | 0.228 |
| 0.18       | 0.384 | 0.832 | 0.236 | 0.909 | 0.764 | 0.091 | 0.217 |
| 0.19       | 0.343 | 0.858 | 0.246 | 0.907 | 0.754 | 0.093 | 0.201 |
| 0.20       | 0.306 | 0.873 | 0.245 | 0.903 | 0.755 | 0.097 | 0.178 |

*Youden index maximum

b Selected cutpoint on a clinical basis of sensitivity and NPV

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1 Estimated prevalence of hypothermia was 11.9%