# Appendix

TABLE E-1 Cumulative Percentage Probability of Revision After Primary Total Hip Replacement by BMI Classification*

| BMI Classification | Cumulative Percentage Probability of Revision (95% CI) | | |
| --- | --- | --- | --- |
| | 3 Yr | 5 Yr | 7 Yr |
| Underweight | 1.02 (0.69 to 1.51) | 1.93 (1.33 to 2.81) | 2.52 (1.70 to 3.73) |
| Normal | 1.25 (1.16 to 1.34) | 2.07 (1.94 to 2.21) | 3.22 (2.98 to 3.47) |
| Overweight | 1.40 (1.34 to 1.47) | 2.12 (2.03 to 2.22) | 3.15 (2.98 to 3.32) |
| Class-I obese | 1.68 (1.59 to 1.77) | 2.52 (2.39 to 2.65) | 3.51 (3.30 to 3.72) |
| Class-II obese | 2.10 (1.94 to 2.27) | 3.03 (2.81 to 3.28) | 3.98 (3.64 to 4.35) |
| Class-III obese | 2.46 (2.18 to 2.79) | 3.14 (2.77 to 3.55) | 4.05 (3.52 to 4.67) |

*We used the revision data set and restricted it to operations performed in 2008 and onward (383,514 primary total hip replacements). CI = confidence interval.

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TABLE E-2 Cumulative Percentage Probability of Mortality After Primary Total Hip Replacement by BMI Classification*

| BMI Classification | Cumulative Percentage Probability of Mortality (95% CI) | | |
|---|---|---|---|
| | 30 Days | 60 Days | 90 Days |
| Underweight | 0.42 (0.24 to 0.72) | 0.68 (0.45 to 1.05) | 0.98 (0.69 to 1.40) |
| Normal | 0.20 (0.17 to 0.24) | 0.31 (0.27 to 0.35) | 0.42 (0.38 to 0.47) |
| Overweight | 0.13 (0.11 to 0.15) | 0.20 (0.18 to 0.23) | 0.27 (0.24 to 0.29) |
| Class-I obese | 0.12 (0.10 to 0.14) | 0.18 (0.15 to 0.21) | 0.24 (0.21 to 0.28) |
| Class-II obese | 0.12 (0.09 to 0.16) | 0.19 (0.15 to 0.24) | 0.26 (0.21 to 0.32) |
| Class-III obese | 0.09 (0.05 to 0.17) | 0.15 (0.10 to 0.24) | 0.25 (0.17 to 0.35) |

*The estimates were obtained using the mortality data set and restricted to operations performed in 2008 and onward (381,897 primary total hip replacements). CI = confidence interval.

TABLE E-3 Cox Regression Models Fitted to Investigate the Effect of BMI on Revision After Primary Total Hip Replacement*

| BMI Classification | RM 1† | | RM 2‡ | | RM 3§ | | RM 4# | |
|---|---|---|---|---|---|---|---|---|
| | HR (95% CI) | P Value | HR (95% CI) | P Value | HR (95% CI) | P Value | HR (95% CI) | P Value |
| Underweight | 0.82 (0.60 to 1.14) | 0.241 | 0.85 (0.61 to 1.17) | 0.320 | 0.83 (0.60 to 1.15) | 0.256 | 0.84 (0.61 to 1.16) | 0.284 |
| Normal | 1 | — | 1 | — | 1 | — | 1 | — |
| Overweight | 1.05 (0.98 to 1.12) | 0.211 | 1.01 (0.94 to 1.08) | 0.869 | 1.01 (0.94 to 1.08) | 0.875 | 1.01 (0.94 to 1.08) | 0.851 |
| Class-I obese | 1.23 (1.14 to 1.32) | <0.0005 | 1.15 (1.07 to 1.24) | <0.0005 | 1.14 (1.06 to 1.23) | <0.0005 | 1.16 (1.07 to 1.25) | <0.0005 |
| Class-II obese | 1.50 (1.37 to 1.64) | <0.0005 | 1.37 (1.25 to 1.50) | <0.0005 | 1.34 (1.23 to 1.47) | <0.0005 | 1.37 (1.25 to 1.50) | <0.0005 |
| Class-III obese | 1.68 (1.49 to 1.91) | <0.0005 | 1.49 (1.31 to 1.69) | <0.0005 | 1.42 (1.25 to 1.62) | <0.0005 | 1.48 (1.30 to 1.68) | <0.0005 |

*This analysis was based on the revision data set including operations in 2008 and onward (383,514 primary total hip replacements). HR = hazard ratio, and CI = confidence interval. †Revision model (RM) 1: univariate model. ‡RM 2: adjusted for age and sex. §RM 3: adjusted for age, sex, ASA grade, and year of operation. #RM 4: adjusted for age, sex, ASA grade, year of operation, fixation type, and indication for operation.

TABLE E-4 Cox Regression Models Fitted to Investigate the Effect of BMI on Mortality After Primary Total Hip Replacement*

| BMI Classification | MM 1† HR (95% CI) | MM 1† P Value | MM 2‡ HR (95% CI) | MM 2‡ P Value | MM 3§ HR (95% CI) | MM 3§ P Value | MM 4# HR (95% CI) | MM 4# P Value |
|---|---|---|---|---|---|---|---|---|
| Underweight | 2.34 (1.61 to 3.41) | <0.0005 | 2.28 (1.56 to 3.31) | <0.0005 | 2.11 (1.45 to 3.08) | <0.0005 | 1.81 (1.24 to 2.64) | 0.002 |
| Normal | 1 | — | 1 | — | 1 | — | 1 | — |
| Overweight | 0.64 (0.55 to 0.74) | <0.0005 | 0.67 (0.57 to 0.77) | <0.0005 | 0.68 (0.59 to 0.79) | <0.0005 | 0.68 (0.59 to 0.79) | <0.0005 |
| Class-I obese | 0.58 (0.49 to 0.68) | <0.0005 | 0.72 (0.60 to 0.85) | <0.0005 | 0.74 (0.63 to 0.88) | 0.001 | 0.67 (0.56 to 0.80) | <0.0005 |
| Class-II obese | 0.62 (0.49 to 0.78) | <0.0005 | 0.95 (0.75 to 1.20) | 0.682 | 0.99 (0.78 to 1.25) | 0.920 | 0.77 (0.61 to 0.97) | 0.030 |
| Class-III obese | 0.59 (0.41 to 0.85) | 0.005 | 1.15 (0.79 to 1.67) | 0.454 | 1.20 (0.82 to 1.74) | 0.347 | 0.72 (0.49 to 1.05) | 0.086 |

*This analysis was based on the mortality data set including operations performed in 2008 and onward (381,897 primary total hip replacements). HR = hazard ratio, and CI = confidence interval. †Mortality model (MM) 1: univariate model. ‡MM 2: adjusted for age and sex. §MM 3: adjusted for age and sex and stratified by indication for operation. #MM 4: adjusted for age, sex, ASA grade, year of operation, and stratified by indication for operation (baseline stratification to relax the proportional assumptions of Cox regression).