

Supplementary material for article titled: *Meeting physical activity recommendations is associated with health-related quality of life in women before and after Roux-en-Y Gastric Bypass surgery*

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Supplementary material 1. Multiple regression analysis: difference in HRQoL by meeting recommendations of either 150 min/week of MVPA in general and in 10 min bouts or not for 39 participants with valid measurements pre- and 12 months post-surgery.

| Variables | MCS | PCS | PF | RP | BP | GH | VT | SF | RE | MH |
|---|-------------------|-------------------|-------------------|-------------------|-------------------|-------------------|-------------------|-------------------|-------------------|-------------------|
| Pre-surgery (n=39) | | | | | | | | | | |
| 150min/week MVPA | 2.9 (p=0.378) | 4.5 (p=0.099) | 15.8 (p=0.055) | 10.8 (p=0.254) | 10.9 (p=0.211) | 6.2 (p=0.325) | 6.6 (p=0.312) | 9.1 (p=0.310) | 4.3 (p=0.671) | 10.7 (p=0.083) |
| 150min/week MVPA Adjusted ¹ | -0.5 (p=0.869) | -1.0 (p=0.680) | 2.7 (p=0.739) | -2.5 (p=0.747) | -5.0 (p=0.550) | -3.3 (p=0.588) | -2.6 (p=0.616) | -2.6 (p=0.785) | -4.8 (p=0.627) | 3.6 (p=0.562) |
| 150min/week MVPA (10 bouts) | 1.7 (p=0.712) | -0.0 (p=0.993) | 1.4 (p=0.922) | 3.8 (p=0.774) | 4.9 (p=0.687) | -6.1 (p=0.484) | 1.1 (p=0.900) | 5.7 (p=0.649) | 0.6 (p=0.965) | 5.0 (p=0.566) |
| 150min/week MVPA (10 bouts) Adjusted ¹ | 4.1 (p=0.297) | -1.2 (p=0.692) | -0.3 (p=0.977) | 4.9 (p=0.617) | 1.7 (p=0.871) | -6.7 (p=0.388) | 6.7 (p=0.310) | 7.3 (p=0.554) | 4.2 (p=0.738) | 7.8 (p=0.320) |
| 1 year post-surgery (n=39) | | | | | | | | | | |
| 150min/week MVPA | 0.4 (p=0.896) | 10.2 (p<0.001) | 23.9 (p<0.001) | 15.4 (p=0.013) | 29.1 (p=0.001) | 13.5 (p=0.049) | 4.0 (p=0.584) | 20.5 (p=0.003) | 9.3 (p=0.100) | 1.7 (p=0.736) |
| 150min/week MVPA Adjusted ¹ | -3.5 (p=0.190) | 6.4 (p=0.001) | 17.4 (p<0.001) | 7.0 (p=0.112) | 14.7 (p=0.060) | 1.7 (p=0.715) | -3.3 (p=0.547) | 7.2 (p=0.5245) | 0.2 (p=0.968) | -5.8 (p=0.234) |
| 150min/week MVPA (10 bouts) | 2.1 (p=0.519) | 9.0 (p=0.006) | 16.4 (p=0.018) | 12.1 (p=0.117) | 29.5 (p=0.008) | 16.8 (p=0.009) | 15.2 (p=0.078) | 10.1 (p=0.209) | 9.5 (p=0.172) | 3.4 (p=0.585) |
| 150min/week MVPA (10 bouts) Adjusted ¹ | -3.4 (p=0.256) | 3.4 (p=0.140) | 5.4 (p=0.340) | -0.7 (p=0.895) | 11.7 (p=0.200) | 0.1 (p=0.983) | 1.2 (p=0.853) | -2.6 (p=0.719) | -2.1 (p=0.717) | -7.9 (p=0.155) |

Data presented as β (p-value). MVPA: Moderate to vigorous physical activity, PF: Physical functioning, RP: Physical role functioning, BP: Bodily pain, GH: General health perceptions, VT: vitality, SF: Social role functioning, RE: Emotional role functioning, MH: Mental health, PCS: Physical summary score, MCS: Mental summary score.

¹Adjusted for occupation, education, wear time and long term sickness.

Supplementary material 2. Multiple regression analysis: linear association between HRQoL and light physical activity (LPA, per 60 min), sedentary time (ST, per 60 min) or step counts (per 1000 steps) for 39 participants with valid measurements pre- and 12 months post-surgery.

| Variables | MCS | PCS | PF | RP | BP | GH | VT | SF | RE | MH |
|--------------------------------------|-------------------|-------------------|-------------------|-------------------|-------------------|-------------------|-------------------|-------------------|-------------------|-------------------|
| Pre-surgery (n=39) | | | | | | | | | | |
| LPA | 1.7 (p=0.216) | 1.6 (p=0.156) | 3.3 (p=0.334) | 1.8 (p=0.655) | 4.8 (p=0.176) | 5.5 (p=0.028) | 4.7 (p=0.073) | 6.2 (p=0.088) | 0.9 (p=0.822) | 3.5 (p=0.170) |
| LPA Adjusted ¹ | -0.4 (p=0.774) | -0.1 (p=0.905) | -0.7 (p=0.839) | -5.3 (p=0.078) | 1.3 (p=0.743) | 1.3 (p=0.605) | 0.3 (p=0.887) | 1.3 (p=0.742) | -4.8 (p=0.216) | 0.3 (p=0.896) |
| ST | 0.3 (p=0.817) | -0.1 (p=0.934) | 1.0 (p=0.714) | 1.7 (p=0.595) | -1.3 (p=0.651) | -0.7 (p=0.731) | -1.0 (p=0.656) | 0.5 (p=0.869) | 0.8 (p=0.813) | 1.1 (p=0.604) |
| ST Adjusted ¹ | 0.1 (p=0.913) | 0.1 (p=0.939) | 0.1 (p=0.968) | 3.9 (p=0.149) | -1.2 (p=0.729) | -0.8 (p=0.723) | -0.6 (p=0.772) | -1.1 (p=0.754) | 3.6 (p=0.305) | -0.8 (p=0.721) |
| Step counts | 0.6 (p=0.293) | 0.9 (p=0.077) | 2.1 (p=0.169) | 3.0 (p=0.077) | 2.0 (p=0.207) | 1.4 (p=0.208) | 1.9 (p=0.108) | 1.6 (p=0.313) | 2.0 (p=0.275) | 1.1 (p=0.326) |
| Step counts Adjusted ¹ | -0.1 (p=0.797) | 0.1 (p=0.818) | 0.3 (p=0.850) | -0.0 (p=0.985) | 0.3 (p=0.840) | -0.1 (p=0.917) | -0.0 (p=0.967) | -0.3 (p=0.837) | -0.2 (p=0.885) | -0.1 (p=0.932) |
| 1 year post- surgery (n=39) | | | | | | | | | | |
| LPA | 1.5 (p=0.139) | 2.1 (p=0.043) | 3.7 (p=0.083) | 4.8 (p=0.038) | 5.5 (p=0.119) | 4.9 (p=0.057) | 6.5 (p=0.012) | 4.3 (p=0.082) | 2.6 (p=0.231) | 2.4 (p=0.200) |
| LPA Adjusted ¹ | 0.1 (p=0.896) | 1.1 (p=0.150) | 2.2 (p=0.249) | 3.2 (p=0.055) | 1.7 (p=0.591) | 1.0 (p=0.595) | 3.4 (p=0.097) | 1.2 (p=0.616) | 0.0 (p=0.984) | 0.1 (p=0.953) |
| ST | 0.2 (p=0.853) | -2.2 (p=0.023) | -3.7 (p=0.070) | -3.9 (p=0.077) | -5.7 (p=0.086) | -2.9 (p=0.240) | -3.1 (p=0.223) | -2.1 (p=0.383) | 0.1 (p=0.957) | -0.1 (p=0.963) |
| ST Adjusted ¹ | 0.3 (p=0.760) | -1.4 (p=0.037) | -3.0 (p=0.081) | -2.8 (p=0.063) | -3.1 (p=0.289) | -1.0 (p=0.548) | -2.2 (p=0.227) | -1.4 (p=0.523) | 0.1 (p=0.961) | 0.6 (p=0.726) |
| Step counts | 0.2 (p=0.662) | 1.6 (p<0.001) | 3.5 (p<0.001) | 2.8 (p=0.003) | 4.6 (p=0.001) | 2.4 (p=0.029) | 1.6 (p=0.149) | 1.9 (p=0.064) | 1.7 (p=0.050) | 0.4 (p=0.585) |
| Step counts Adjusted ¹ | -0.7 (p=0.073) | 0.9 (p=0.003) | 2.3 (p=0.003) | 0.5 (p=0.445) | 2.4 (p=0.073) | 0.0 (p=0.972) | -0.4 (p=0.629) | 0.3 (p=0.775) | -0.5 (p=0.526) | -1.2 (p=0.108) |

Data presented as β (p-value). MVPA: Moderate to vigorous physical activity, PF: Physical functioning, RP: Physical role functioning, BP: Bodily pain, GH: General health perceptions, VT: vitality, SF: Social role functioning, RE: Emotional role functioning, MH: Mental health, PCS: Physical summary score, MCS: Mental summary score.

¹Adjusted for education, wear time and long term sickness.

Supplementary material 3. Number of participants reaching the PA recommendations (150 min MVPA/ week) pre- and post-surgery.

| | | Post-surgery | |
|-------------|----------|--------------|----------|
| | | active | inactive |
| Pre-surgery | active | 15 | 6 |
| | inactive | 8 | 11 |