Table S1. Basic characteristics of men across cardiorespiratory fitness groups: Aerobics Center Longitudinal Study (ACLS), 1970-2003

| Characteristics | All (N=41,528), mean (SD) or % | Cardiorespiratory Fitness[a] | | | P value |
| --- | --- | --- | --- | --- | --- |
| | | Low (N =6,687), mean (SD) or % | Moderate (N=16,535), mean (SD) or % | High (N =18,306), mean (SD) or % | |
| Age,yr | 43.3 ( 9.3) | 42.2 ( 8.6) | 43.5 ( 9.1) | 43.5 ( 9.3) | <.001 |
| BMI,kg/m$^2$ | 26.5 ( 3.8) | 29.6 ( 5.2) | 26.9 ( 3.3) | 25.0 ( 2.6) | <.001 |
| Total cholesterol, mmol/L | 5.4 ( 1.1) | 5.7 ( 1.1) | 5.5 ( 1.0) | 5.2 ( 1.2) | <.001 |
| Fasting glucose, mmol/L | 5.6 ( 2.7) | 5.8 ( 1.3) | 5.6 ( 0.9) | 5.5 ± 3.9 | <.001 |
| Blood pressure, mm Hg | | | | | |
| Systolic | 122 ( 13) | 125 ( 14) | 122 ( 13) | 120 ( 13) | <.001 |
| Diastolic | 81 (10) | 84 (10) | 82 ( 10) | 80 (9) | <.001 |
| Current smoker, % | 17.4 | 30.8 | 20.2 | 10.1 | <.001 |
| Heavy drinking, % | 7.2 | 5.8 | 7.2 | 7.8 | <.001 |

| | | | | | |
|---|---|---|---|---|---|
| Physical inactivity, % | 32.6 | 65.8 | 40.2 | 13.6 | <.001 |
| Diabetes mellitus,(% | 4.8 | 9.3 | 5.1 | 2.9 | <.001 |
| Hypertension, % | 30.7 | 43.6 | 32.7 | 24.0 | <.001 |
| Hypercholesterolemia, % | 27.4 | 35.1 | 30.2 | 22.2 | <.001 |
| Low fat dietary restriction, % | 6.9 | 4.1 | 5.8 | 8.9 | <.001 |
| Low cholesterol dietary restriction, % | 5.0 | 2.7 | 4.1 | 6.8 | <.001 |

BMI=body mass index; MET=metabolic equivalent; SD=standard deviation.

P value: ANOVA test for continuous variables or Chi-square tests for categorical variables across three fitness groups.

[a] Cardiorespiratory fitness was classified as low, moderate, and high based on cutpoints developed from age- and sex-specific

distributions of treadmill time duration among the ACLS population[17].

Table S2. Basic characteristics of women across cardiorespiratory fitness groups: Aerobics Center Longitudinal Study (ACLS), 1970-2003

| Characteristics | All (N=13,206), mean (SD) or % | Cardiorespiratory Fitness[a] | | | P value |
| | | Low (N =1,653), mean (SD) or % | Moderate (N =4,618), mean (SD) or % | High (N =6,935), mean (SD) or % | |
| --- | --- | --- | --- | --- | --- |
| Age, yr | 43.2 ( 10.2) | 42.8 ( 9.7) | 43.1 ( 10.1) | 43.4 (10.4) | .002 |
| BMI, kg/m$^2$ | 23.3 ( 4.0) | 26.7 ( 6.2) | 23.8 ( 3.9) | 22.2 ( 2.7) | <.001 |
| Total cholesterol, mmol.L$^{-1}$ | 5.2 (±1.0) | 5.4 ( 1.0) | 5.3 ( 1.0) | 5.1 ( 1.1) | <.001 |
| Fasting glucose, mmol.L$^{-1}$ | 5.2 ( 4.6) | 5.4 ( 1.1) | 5.2 ( 0.7) | 5.2 ( 6.4) | .43 |
| Blood pressure, mm Hg | | | | | |
| Systolic | 112 ( 14) | 116 ( 15) | 113 ( 14) | 111 (14) | <.001 |
| Diastolic | 76 ( 10_ | 78 ( 10) | 76 ( 10) | 75 ( 9) | <.001 |
| Current smoker, % | 9.9 | 16.4 | 12.2 | 6.7 | <.001 |
| Heavy drinking, % | 9.4 | 3.7 | 7.2 | 12.2 | <.001 |

| | | | | |
|---|---|---|---|---|---|
| Physical inactivity, % | 28.0 | 62.6 | 38.0 | 13.1 | <.001 |
| Diabetes mellitus, % | 3.4 | 4.7 | 3.8 | 2.9 | <.001 |
| Hypertension, % | 16.2 | 25.4 | 17.5 | 13.2 | <.001 |
| Hypercholesterolemia, % | 20.2 | 23.8 | 22.0 | 18.2 | <.001 |
| Low fat dietary restriction, % | 12.8 | 6.5 | 10.4 | 16.0 | <.001 |
| Low cholesterol dietary restriction, % | 6.8 | 3.3 | 5.9 | 8.3 | <.001 |

BMI=body mass index; MET=metabolic equivalent; SD=standard deviation.

P value: ANOVA test for continuous variables or Chi-square tests for categorical variables across three fitness groups.

[a] Cardiorespiratory fitness was classified as low, moderate, and high based on cutpoints developed from age- and sex-specific

distributions of treadmill time duration among the ACLS population[17].

Table S3. Prevalence and adjusted odds ratios for gallbladder disease by cardiorespiratory fitness (CRF) levels in men and women.

| | Cases/N | Prevalence | OR (95% CI) | |
| | | | Model 1[a] | Model 2[b] |
|---|---|---|---|---|
| **Men** (*N*=41,528) | | | | |
| Low CRF | 47/6,687 | 0.70% | 1.00 | 1.00 |
| Moderate CRF | 90/16,535 | 0.54% | 0.54 (0.38-0.78) | 0.76 (0.51-1.14) |
| High CRF | 79/18,306 | 0.43% | 0.38 (0.26-0.55) | 0.64 (0.40-1.02) |
| *P* for linear trend | | .03 | <.001 | .07 |
| **Women** (*N*=13,206) | | | | |
| Low CRF | 45/1,653 | 2.72% | 1.00 | 1.00 |
| Moderate CRF | 94/4,618 | 2.04% | 0.44 (0.30-0.65) | 0.69 (0.45-1.06) |
| High CRF | 121/6,935 | 1.74% | 0.26 (0.18-0.38) | 0.51 (0.32-0.83) |
| *P* for linear trend | | .03 | <.001 | .005 |

OR=odds ratio; CI=confidence interval.

[a]Adjusted for age and examination year.

[b] Adjusted for age, examination year, body mass index, physical inactivity, current smoker, heavy drinking, diabetes mellitus, hypertension, hypercholesterolemia, low fat dietary restriction, and low cholesterol dietary restriction.

Figure S1. Multivariate[a] aORs (95% CIs) of gallbladder disease stratified by CRF and age, diabetes mellitus, and physical activity for men; [a]Adjusted for age, examination year, body mass index, physical inactivity, current smoker, heavy drinking, diabetes mellitus, hypertension, hypercholesterolemia, low fat dietary restriction, and low cholesterol dietary restriction. *P for linear trend < .05.  Error bars indicate 95% CIs. aOR=adjusted odds ratio; CI=confidence interval; CRF=cardiorespiratory fitness.
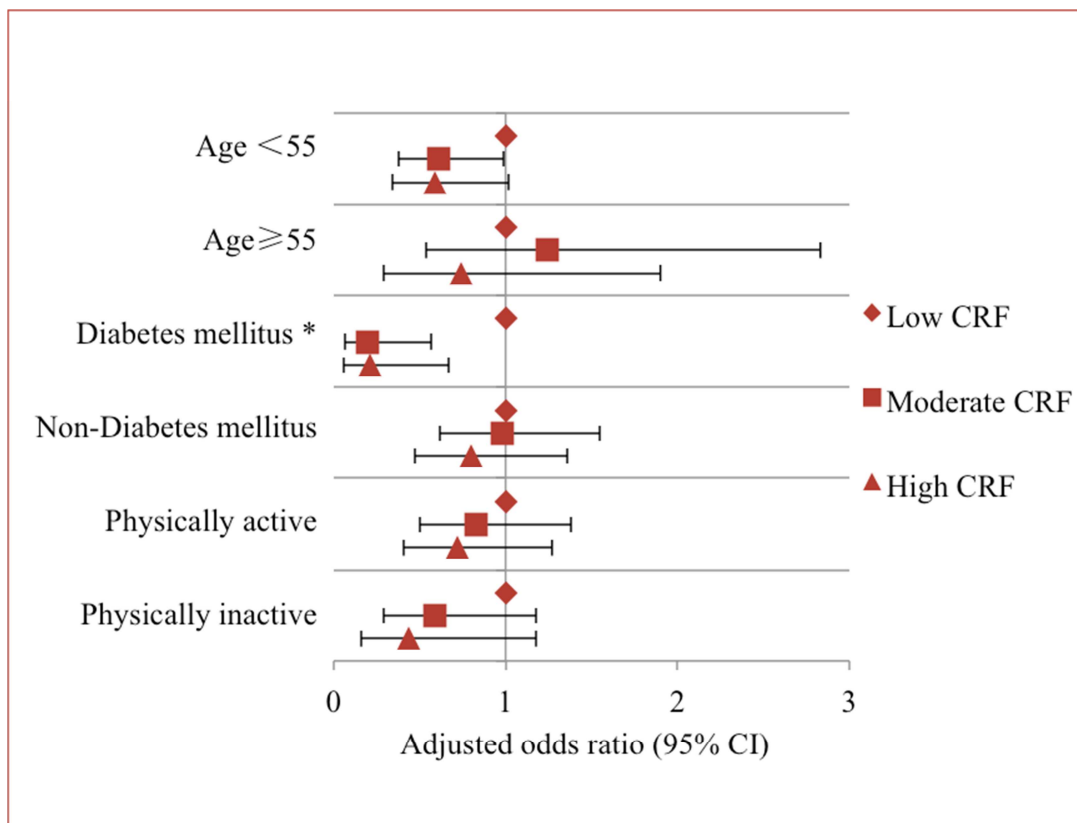
Figure S2. Multivariate[a] aORs (95% CIs) of gallbladder disease stratified by CRF and age, diabetes mellitus, and physical activity for women; [a]Adjusted for age, examination year, body mass index, physical inactivity, current smoker, heavy drinking, diabetes mellitus, hypertension, hypercholesterolemia, low fat dietary restriction, and low cholesterol dietary restriction. *P for linear trend < .05. **P for linear trend < .01. Error bars indicate 95% CIs. aOR=adjusted odds ratio; CI=confidence interval; CRF=cardiorespiratory fitness.