IS IT BETTER TO BE FIT & FAT OR THIN & UNFIT?
2 SEPARATE STUDIES GIVE THE ANSWER

In 2 separate but astounding studies here and here, done many years apart, give the answer to who will probably live longer. Thin people that don't work out or overweight and even obese people that do. The 2 studies below found that if your were overweight or obese but had a fit cardiorespiratory system, you lived just as long as other fit people of normal weight. **This highlights the importance of doing aerobic exercise *even* if you don't lose weight.** So when you see studies pointing out that aerobic exercise does not contribute significantly to weight loss remember that it *does* contribute significantly to your longevity, not to mention your quality of life. In fact these studies shockingly show that there is virtually no difference in life expectancy between obese people and normal weight people if they both have a fit cardiorespiratory system.

In the first study published in 1999 on men in their 40's, there was little to no difference in mortality rate for people in the fit category. Though men in the fit category with normal fat percentage has a 20% lower mortality than men with less than 16.7% body fat. This is ironic since we normally associate the lower body fat% with healthier individuals. In fact you would need a body fat % below 16.7% in order to show any abs. However, there was no significant difference in mortality rate among fit men no matter their waist size. All men in the fit category had *at least 50% lower mortality rate* over their counterparts in the body fat or waist size category. While the mortality rate for fit men in all 3 waist size categories was essentially the same. Also note that the highest mortality was for the unfit men with the lowest body fat and the smallest waist size.

TABLE 2
Body fatness and relative risks (RR) of all-cause and cardiovascular disease mortality by cardiorespiratory fitness level in men[1]

Body fatness category and cardiorespiratory fitness level	Man-years of follow-up	All-cause mortality		
		Deaths	RR of death (95% CI)[2]	MultivariateRR of death (95%
	man-y (%)	*n*		
Lean (< 16.7% body fat)				
Fit (*n* = 5093)	41 854 (23.7)	68	1.00	1.00
Unfit (*n* = 327)	3883 (2.2)	14	2.06 (1.15, 3.66)	2.07 (1.16, 3.69)
Normal (16.7 to < 25.0% body fat)				
Fit (*n* = 9255)	68 546 (38.8)	127	0.80 (0.59, 1.08)	0.80 (0.59, 1.08)
Unfit (*n* = 1851)	19 669 (11.1)	60	1.61 (1.14, 2.28)	1.62 (1.15, 2.30)
Obese (≥ 25.0% body fat)				
Fit (*n* = 3217)	21 874 (12.4)	65	0.93 (0.65, 1.31)	0.92 (0.65, 1.31)
Unfit (*n* = 2182)	20 916 (11.8)	94	1.92 (1.40, 2.62)	1.90 (1.39, 2.60)

1 Cardiorespiratory fitness level (fit or unfit) from reference 18.
2 Adjusted for age (single year) and examination year.
3 Adjusted for age (single year), examination year, smoking habit, alcohol intake, and parental history of ischemic heart disease.

TABLE 3
Waist circumference and relative risks (RRs) of all-cause mortality by cardiorespiratory fitness level in 14 043 men[2]

Waist circumference category and cardiorespiratory fitness level	Deaths	Man years of follow-up	RR of death (95% CI)[2]	Multivariate RR of death (95% CI)[2]
	n	*man-y (%)*		
Low waist circumference (< 87 cm)				
Fit (*n* = 3247)	26	18 579 (23.8)	1.00	1.00
Unfit (*n* = 136)	8	1022 (1.3)	4.71 (2.13, 10.43)	4.88 (2.20, 10.83)
Moderate waist circumference (87 to < 99 cm)				
Fit (*n* = 6237)	60	34 189 (43.8)	1.08 (0.68, 1.71)	1.05 (0.66, 1.67)
Unfit (*n* = 616)	15	4211 (5.4)	2.08 (1.10, 3.93)	2.05 (1.08, 3.87)
High waist circumference (≥ 99 cm)				
Fit (*n* = 2645)	24	12 994 (16.7)	0.98 (0.56, 1.72)	0.95 (0.54, 1.66)
Unfit (*n* = 1162)	29	7013 (9.0)	2.47 (1.45, 4.19)	2.40 (1.41, 4.07)

While the second study (results below) published in 2007 on both men and women in their 60's showed similar results. Once again we see a drastic reduction in early mortality by every weight measure. There was no relationship between BMI and mortality rate in fit people. Only abdominal obesity, defined as over 40.2 inches in men and 34.6 inches in women, had a small effect on mortality of 20%. Surprisingly in the unfit the highest mortality rate was in the supposedly "healthy" BMI category, while the next 2 highest categories had about 50% reduction in mortality by comparison. But the takeaway from these 2 studies is that cardiorespiratory fitness counteracts virtually all of the negative effects obesity has on mortality rate irregardless of whether or not you lose weight. So the answer to the opening question is "It's no contest, it's far better to be fit and fat compared to unfit and thin, at least as far as not dying prematurely goes."

Table 7. Joint Associations of Cardiorespiratory Fitness (Fitness) and Adiposity Measures With All-Cause Mortality—Aerobics Center Longitudinal Study, 1979-2003[a]

	Fit			Unfit			
Adiposity Measure	No. of Deaths	Rate[b]	HR (95% CI)[c]	No. of Deaths	Rate[b]	HR (95% CI)[c]	*P* Value
BMI[d]							
18.5-24.9	158	1.2	1 [Reference]	34	4.9	3.63 (2.47-5.32)	<.001
25.0-29.9	152	1.2	0.88 (0.70-1.11)	44	2.7	1.74 (1.23-2.46)	<.001
30.0-34.9	32	1.6	1.12 (0.76-1.66)	18	2.5	1.68 (1.02-2.78)	.46
≥35.0	2	1.2	0.86 (0.21-3.50)	10	4.8	3.35 (1.74-6.44)	.05
Waist circumference[e]							
Normal	274	5.1	1 [Reference]	61	14.5	2.84 (2.15-3.75)	<.001
Abdominal obesity	70	6.2	1.21 (0.93-1.58)	45	13.5	2.65 (1.93-3.63)	<.001
Percent body fat[e]							
Normal	151	9.1	1 [Reference]	29	26.8	2.94 (1.97-4.38)	<.001
Obese	190	8.7	0.96 (0.78-1.19)	72	21.8	2.39 (1.81-3.16)	<.001

Abbreviations: BMI, body mass index; CI, confidence interval; HR, hazard ratio.
[a] Cross-product tests of interaction between fitness and adiposity exposures were not statistically significant: fitness-BMI ($\chi^2_1 = 0.05$, $P = .82$); fitness-waist circumference ($\chi^2_1 = 1.38$, $P = .24$); and fitness-percent body fat ($\chi^2_1 = 0.04$, $P = .84$).
[b] All-cause death rates per 1000 person-years adjusted for age, sex, and examination year.
[c] Adjusted for age, sex, examination year, smoking status, abnormal exercise electrocardiogram responses, and presence vs absence of baseline health conditions (cardiovascular disease, hypertension, diabetes, and hypercholesterolemia).
[d] Calculated as weight in kilograms divided by height in meters squared.