

**SPEAKER 1:** Currently in the US the way we assess obesity-related health risks is with something called body mass index. It is your weight in kilograms, divided by your height in meters squared. And this tells us whether you're at increased risk of multiple chronic diseases, as well as higher mortality. However, we know that BMI is not a perfect measure. There's a couple issues with it. First, it doesn't discriminate lean mass from fat mass. Lean mass is your muscles, fat mass is fat. And it also doesn't say anything about where your weight is located. Is the extra weight in your hips or is it in your belly? We worry about that because extra fat in your belly has a bad metabolic profile, lower insulin resistance, and poor lipid profiles.

So the aim of this study was to ask the question, can we improve on body mass index? We already know it works well. Nationally, the US Preventive Services Task Force says we only really need to look at BMI to assess obesity risk. The NIH says you can use both BMI and waist circumference, but you only need to measure waist circumference in overweight and obese individuals. We wanted to ask the question, what would waist circumference add beyond BMI? And to do this, you really need a very large study because these are highly correlated.

So what we did is brought all the original data in from 11 different cohort studies that were conducted in North America, Europe, and Australia. We pooled them together, and then asked the question, if we already know BMI, what could waist circumference in addition tell us? We found that waist circumference was positively associated with higher mortality risk after you accounted for things like age, smoking, alcohol, physical activity, and BMI. So BMI was already in the model. Then we went and looked at each level of BMI. And across each level, even in the normal BMI levels, people with higher weight circumferences still had higher mortality. Suggesting to us that for a comprehensive obesity-related assessment, you should actually measure both BMI and waist circumference.

I think physicians have known that. Probably what's a little newer here and maybe a little less recognized, is that even a greater waist circumference in the normal body mass index range-- where people would say, you're normal, you don't have to worry-- we actually saw elevated risks occurring there. So this applies across the BMI spectrum, not just at the high ends.

One of the implications of our study then is that physicians should regularly incorporate waist circumference in health-risk assessment of their patients. What can patients do about it? Well, if you already have low BMI or low waist circumference, then the goal would be to maintain that over your life course. If you have a high BMI-- and particularly a high waist circumference-- then the first issue should be, we don't want it to get larger, because there's incremental health risks. And even if you can make a small decrease, there's actually strong health benefits for that. So you don't necessarily have to go back to the very low levels. But even losing some belly fat-- and that's usually through changes in diet and physical activity-- will have important health benefits.