

Less muscle wasting in obese people in intensive care may mean they have a better chance of survival

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Further evidence that obese people who are seriously ill could have a better chance of survival than their normal weight counterparts is presented at this year's European Congress on Obesity in Vienna, Austria (23-26 May).

The study, by Jeroen Molinger, Erasmus MC, University Medical Center Rotterdam, Netherlands, and colleagues suggests that [obese people](#) could potentially have a better chance of survival during intensive care stay because the extra weight causes an adaptive response of the muscle, which in turn results in higher muscle quality; and lower rates of damaging muscle wasting.

While obesity and overweight are associated with an increased risk of death in the general population, a decrease in mortality has been reported in specific disease conditions. This so called 'obesity paradox' of critical illness refers to better survival with a higher body mass Index (BMI).

Hyper-catabolism—the body breaking itself down—in the acute phase of the critical illness is presumed to be an adaptive response providing the essential fuel for energy production in vital organs. However, when this hypercatabolic state persists it may result in muscle wasting and [muscle weakness](#). Skeletal muscle quality is recognised as a marker of function in healthy individuals and critically ill patients. To determine muscle histology on an ICU; a muscle biopsy is normally needed.

However, this procedure is invasive and does not give a result of the whole muscle. In this new study, by using a new non-invasive ultrasound technology, assessment of muscle histology and morphology, the authors aimed to study muscle quality in obese and non-obese [critically ill patients](#).

In the total group of 26 patients, nine were defined as obese by a [body mass index](#) higher than 30kg/m². In this obese subgroup, the wasting patterns were distinctly different than the non-obese group, when comparing sepsis and neurotrauma. The obese group had a higher muscle quality index corrected by muscle thickness in regard to the non-obese. The speed of wasting, as defined in decline in muscle quality, was also lower in the first 4-5 days in the obese group in comparison with the non-obese.

The authors conclude: "Critically ill patients with obesity seem to have higher [muscle quality](#), as measured by ultrasound at the point of admittance to intensive care compared to non-[obese patients](#). This might be the metabolic protective shield also described as the 'obesity paradox'."

Provided by European Association for the Study of Obesity

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