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<th>Study, year (country)</th>
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<th>Site of measurement and cut-off point for low muscularity</th>
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| Moisey et al.18 2013 (US) | Retro obs 2019–2010 | 149 | Age ≥65 years, injured patients with an abdominal CT on day of admission | 79 (72–85) | • CT at L3: SMI  
• LM: SMI <38.9cm²/m² (women), <55.4cm²/m² (men)  
• Cut-off point from previous cancer population⁴ | LM (106) | Normal muscularity (43) | • Prevalence of LM: 71%  
• Increased SMI was significantly associated with decreased in-hospital mortality (OR=0.93, 95% CI 0.875–0.997, P=0.25)  
• LM group: lower ventilation-free days (P=0.004) and ICU-free days (P=0.002), higher hospital mortality (P=0.018) |
| Paris et al.21 2017 (Canada) | Pros obs | 149 | Patients with CT abdominal scan at L3 level for clinical reason <24 hours before or <72 hours after ICU admission | 59±19 (18–96) | • CT at L3: SMA  
• LM: SMA <110cm² (women), <170cm² (men)  
• Cut-off point from previous ICU population⁶  
• Ultrasound: thighs (quadriceps muscle layer thickness) | Older patients aged ≥65 years (68) | Younger patients aged <65 years (81) | • SMA: 126.0±34.1 versus 157.4±45.6cm² (P<0.001)  
• LM: 68% vs 49% (P=0.025)  
• Quadriceps muscle layer thickness (average left and right leg): 1.2±0.5 vs 1.4±0.7cm (P=0.57) |
| Shibahashi et al.16 2017 (Japan) | Retro obs Jan 2012–Feb 2016 | 150 | Age ≥60 years, ICU patient with primary diagnosis of sepsis, abdominal CT on day of admission | 75 (68–82) | • CT at L3: SMA  
• LM: SMA <39.0 (women), <45.2 (men)  
• Cut-off point derived internally | LM (NR) | Normal muscularity (NR) | • Decreased SMA was associated with increased in-hospital mortality (Adj OR=0.94, 95% CI 0.90–0.97, P<0.001)  
• LM group: higher hospital mortality in logistic and (Adj OR=3.27, 95% CI 1.61–6.63, P=0.001) Cox (HR=2.55, 95% CI 1.43–4.56, P=0.001) regression analysis. |
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<td>Zhi et al. 2019 (China)</td>
<td>Case-control</td>
<td>136</td>
<td>≥60 years, ICU patient diagnosed with AECOPD requiring ventilation support, chest CT within 48 hours of admission</td>
<td>CT at T12: dorsal muscle group area, LM: T12DMA &lt;22.515 (both genders), Cut-off point derived internally</td>
<td>T12DMA is independently associated with hospital mortality (OR=0.901, 95% CI 0.841–0.967, P=0.004), Normal muscularity group: higher median survival (214 days vs 32 days, P=0.011)</td>
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<td>Lambell et al. 2020 (Australia)</td>
<td>Pros obs</td>
<td>50</td>
<td>≥18 years, had a CT scan including the L3 area ≤24 hours before or ≤72 hours after ICU admission</td>
<td>CT at L3: SMA, LM: SMA &lt;110cm² (women), &lt;170cm² (men), Cut-off point from previous ICU population&lt;sup&gt;b&lt;/sup&gt;, Ultrasound: mid-upper arm (thickness of biceps flexor), forearm (ulna muscle thickness), abdominal (rectus abdominis muscle), thighs (quadriceps muscle layer thickness)</td>
<td>Younger patients aged &lt;65 years (33), Older patients aged ≥65 years (17), SMA, cm² (n=50): 189.1±30.5 vs 141.5±32.2 (P=0.001), Mid-upper arm, cm² (n=48): 119.4±25.3 vs 90.4±22.3 (P=0.001), Forearm, cm² (n=39): 120.2±20.1 vs 98.6±21.0 (P=0.004), Bilateral thighs (average), cm² (n=49): 177.4±35.2 vs 112.3±39.2 (P=0.001), Abdomen, cm² (n=39): 1.2±0.3 vs 0.7±0.3 (P=0.001)</td>
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Adj: adjusted; AECOPD: acute exacerbation of chronic obstructive pulmonary disease; CI: confidence interval; CT: computed tomography; HR: hazard ratio; ICU: intensive care unit; L3: third lumbar vertebra level; LM: low muscularity; NR: not reported; OR: odds ratio; Pros obs: prospective observational study; Retro obs: retrospective observational study; SMA: skeletal muscle area in cm²; SMI: skeletal muscle area index (SMA in cm²) divided by squared height (in m²); T12: twelfth thoracic vertebral level; T12DMA: dorsal muscle group area at the T12 vertebral level (defined as any muscle within the region posterior to the T12 spine and ribs and no more lateral than the lateral-most edges of the erector spinal muscles)


<sup>c</sup>Muscle thickness (cm) multiplied by limb length (cm).

Superscript numbers: Refer to REFERENCES