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|--|----------------|
| Partial starvation (>10% weight loss)                      | subtract 0-15% |
| Mild infection, inflammatory bowel disease, post-operative | add 0-13%      |
| Moderate infection, multiple long bone fractures           | add 10-30%     |
| Severe sepsis, multiple trauma (ventilated)                | add 25-50%     |
| Burns 10-90%   | add 10-70%     |

effects of various states on metabolic rate



recognition of prior nutritional status

- Many patients admitted in emergency may have been suffering an illness and have had poor nutrition before admission to intensive care. The best assessment of prior nutritional state is a detailed history of prior illness and nutritional intake combined with clinical examination of fat and muscle distribution.
- Body mass index (BMI = weight in kg/height in m<sup>2</sup>) is useful but weight can be difficult to obtain accurately and may be distorted by resuscitative fluid administration.
- We know that ICU patients suffering from under-nutrition with a limited nutrition reserve have a poorer outcome and that having a low BMI has been shown to be an independent predictor of excess mortality in multiple organ failure.

basal metabolic rate

Table 85.1 Basal metabolic rate in kcal/day by age and gender.<sup>15</sup>

| Age (years) | Female       | Male         |
|-------------|--------------|--------------|
| 15-18       | 13.3 W + 690 | 17.6 W + 656 |
| 18-30       | 14.8 W + 485 | 15.0 W + 690 |
| 30-60       | 8.1 W + 842  | 11.4 W + 870 |
| >60         | 9.0 W + 656  | 11.7 W + 585 |

W, weight in kg.