Table 16.6 Predictive equations to estimate energy targets in critically ill patients.

Reference	Equation
Mifflin St Jeor (MSJ)* *To use with PSU* (Mifflin *et al*. 1990)	Men: 10(wt) + 6.25(ht) -5 (age) + 5 Women: 10(wt) + 6.25(ht) - 5 (age) -161
Penn State University (PSU)* (Frankenfield *et al.* 2009; Frankenfield and Ashcraft, 2011)	MSJ (0.96) + T max (167) + VE (31) - 6212
ACCP/ESPEN kcal/kg/day (Cerra *et al*. 1997; Singer *et al*. 2009)	TEE = 20-25 kcal/kg/day (catabolic phase) TEE = 25-30 kcal/kg/day (anabolic/recovery phase)
Ireton-Jones (IJEE)** (Ireton-Jones *et al.* 1992; Ireton-Jones and Jones, 2002)	Spontaneously breathing patients (original-no change) IJEE (s) = 629-11 (A) + 25 (W) – 609 (O) Ventilator dependent patients (revised by Ireton-Jones & Jones 2002) IJEE (v) = 1784 – 11 (A) + 5 (W) + 244 (S) + 239 (T) + 804 (B)
Harris Benedict (Harris and Benedict, 1919)	Men: 13.75 (wt) + 5 (ht) – 6.8 (age) + 66 Women: 9.6 (wt) + 1.8 (ht) – 4.7 (age) + 655
SCCM/ASPEN*** (McClave *et al.* 2016) Obesity recommendations	BMI 30-50kg/m^2: 11-14kcal/kg/ABW/day BMI >50kg/m^2: 22-25kcal/kg/IBW/day

*Weight in kg (wt), height in cm (ht), minute volume in L per minute (VE), max body temperature in °C in last 24hrs (Tmax).

** s = spontaneously breathing; v = ventilator dependent; A = age (years); W = body weight (kilograms); S = sex (male =1, female =0); T = diagnosis of trauma (present = 1, absent = 0); B = diagnosis of Burn (present =1, absent = 0), O= obesity body mass index > 27kg/m^2 (present =1, absent = 0). NB these values refer to total energy expenditure (TEE).

*** ABW = actual body weight, IBW = ideal body weight **(Section 2).**