

Supportive Care in Cancer

Disagreement between estimated and indirect calorimetry-derived energy requirements in patients undergoing treatment for cancer; a prospective observational cohort study

Molly Emilia Stevelt Davies^{1,2}, Nicolaj Sindahl Jensen^{3,4}, Troels Gammeltoft Dolin^{1,2}, Julia Sidenius Johansen^{2,5}, Tina Munk⁴, Pernille Lassen⁵, Anne Wilkens Knudsen^{4*}, Cecilia Margareta Lund^{1,2*}

* These authors share senior authorship

Affiliations

1. Geriatric Research and Clinical Evidence, Department of Medicine, Copenhagen University Hospital, Herlev and Gentofte, Denmark
2. Department of Medicine, Faculty of Health, Copenhagen University
3. University College Copenhagen, Faculty of Health, Department of Nursing and Nutrition, Institute of Nutrition and Health, Copenhagen, Denmark
4. The Dietitians and Nutritional Research Unit, EATEN, Copenhagen University Hospital, Herlev and Gentofte, Denmark
5. Department of Oncology, Copenhagen University Hospital, Herlev and Gentofte, Denmark

Corresponding Author

Molly Emilia Stevelt Davies
Herlev and Gentofte Hospital
Borgmester Ib Juuls Vej 1, 2730 Herlev, Denmark
Email: molly.emilia.stevelt.davies@regionh.dk
Phone: +45 51 92 39 36

Online Resource Table S1 Measured and estimated energy requirements and body composition

	n	Total cohort (N = 67)	Female (n = 18)	Male (n = 49)
Measured energy requirements				
REE, IC, kcal/day	67	1660 [1440, 1790]	1360 [1210, 1580]	1710 [1580, 1860]
TEE, IC x AF, kcal/day	67	2240 [1970, 2430]	1840 [1680, 2100]	2320 [2180, 2520]
REE, IC, kcal/kg/day	67	21.0 [20.0, 23.5]	21.0 [19.0, 23.0]	21.0 [20.0, 24.0]
TEE, IC, kcal/kg/day	67	29.4 [26.6, 31.6]	27.3 [25.6, 33.4]	29.4 [27.3, 31.2]
CV VO ₂	67	5.0 [3.0, 7.0]	3.5 [2.3, 5.0]	6.0 [4.0, 7.0]
CV VCO ₂	67	6.0 [4.0, 7.5]	4.0 [3.0, 6.0]	6.0 [4.0, 8.0]
Respiratory quotient (RQ)	67	0.76 [0.73, 0.80]	0.75 [0.72, 0.79]	0.76 [0.74, 0.81]
Estimated energy requirements				
REE, clinical dietitian (TEE/AF), kcal/day	67	1620 [1430, 1810]	1360 [1190, 1580]	1670 [1520, 1850]
TEE, clinical dietitian, kcal/day	67	2140 [1970, 2460]	1890 [1640, 2050]	2290 [2100, 2530]
REE, H-B equation, kcal/day	67	1490 [1300, 1710]	1220 [1130, 1310]	1550 [1410, 1760]
TEE, H-B equation x AF, kcal/day	67	2010 [1810, 2300]	1620 [1560, 1820]	2170 [1940, 2450]
Body composition analysis				
Muscle mass*, %	64	40 [34, 43]	34 [30, 37]	42 [36, 44]
Body fat, %	64	26 [22, 36]	34 [30, 41]	25 [22, 34]
Whole body phase angle, °	64	5.00 [4.40, 5.80]	4.50 [4.00, 4.90]	5.15 [4.53, 5.98]
Whole-body phase angle status				
Below the 95% CI	64	37 (58%)	13 (72%)	24 (52%)
Anthropometrics				
Weight, kg	67	75.3 [65.6, 86.6]	62.7 [55.6, 71.5]	78.3 [71.5, 87.7]
BMI, kg/m ²	67	24.5 [22.4, 27.1]	22.6 [20.8, 25.5]	25.3 [22.7, 27.5]

AF = Activity factor, CV = Coefficient variation, H-B equation = Harris-Benedict equation, IC = Indirect calorimetry, REE = Resting energy expenditure, TEE = Total energy expenditure

Continuous data are presented at median and interquartile range (IQR)

Categorical data are presented as number and percentage (%). Percentages are calculated excluding missing data.

*(Skeletal muscle mass/ weight * 100)

