

BODY COMPOSITION USING DUAL ENERGY X-RAY ABSORPTIOMETRY

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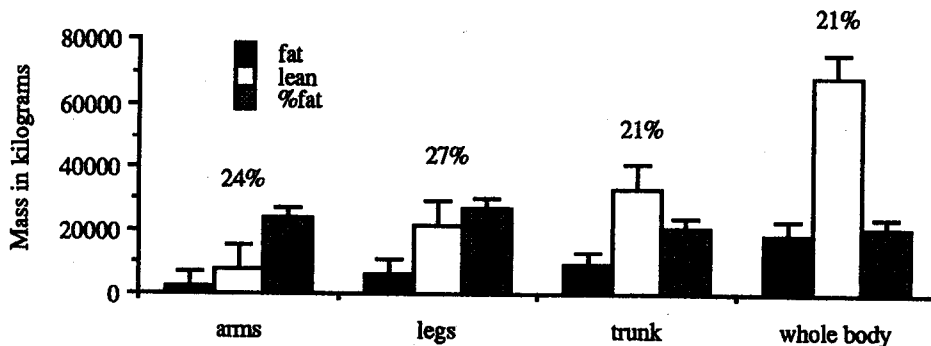
Before the development of dual energy X-ray absorptiometry (DEXA) for body composition analysis lean tissue could not be identified easily and precisely from fat (Mazess et al.1990). DEXA, a highly-precise non-invasive 'in vivo' technique, was originally developed to quantify bone mineral density. Its use to quantify whole body soft tissue was recently validated by comparison with traditional methods (Pritchard et al. 1991).

The DEXA technique was used to determine the body composition of 58 middle-aged men with body mass index (weight/height²;BMI) >25. Total and regional bone mineral, lean and fat values were derived and percentage fat computed from the whole body scan.

Subjects (mean age 43.6 + 5.7 (SD) years) were recruited from 191 eligible employees of the Telecom Network Engineering Melbourne metropolitan workforce. The results (means and SDs) are tabulated below.

	Weight kg	BMI	Fat kg	Lean kg	Bone kg	%fat
Mean	89.59	28.4	18.76	67.99	2.84	20.7
S.D.	10.53	2.7	4.46	7.60	0.37	3.6

The figure shows the pattern of distribution of the means and SDs of regional fat and lean tissue and % fat.



The average % fat was 21% with the trunk contributing 48% of that. The DEXA provides a unique opportunity for evaluating the distribution of fat, lean and bone mass.

MAZESS, R.B., BARDEN, H.S., BISEK, J.P. and HANSON, J. (1990). *Am. J. Clin. Nutr.* 51: 1106.

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