We concluded that QAPSE had demonstrated excellent repeatability and good validity for physical fitness and anthropometric data in an elderly population. This questionnaire investigated important dimensions of elderly people's activity and provided a good estimation of usual DEE for that age group.

Validation of impedancemetry measurements of body composition in the elderly.
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Significant body composition changes occur with ageing that make it necessary to reappraise the revelant measurement techniques. The density of lean body mass (LBM) decreases with age. This generates biases in densitometric methods. The hydratation of LBM varies little with age; therefore, total body water (TBW) is a good parameter for estimating body composition in the elderly. Estimates of TBW with impedancemetry has not been properly validated in the elderly, both for low (50 kHz) and high (> 500 kHz) current frequencies. In particular, the only published equations [Deurenberg (1990) *Am J Clin Nutr*] overestimate fat mass by about 7%. The aim of the present study was therefore to perform such a validation, the reference technique for measuring TBW being ^{18}O dilution.

TBW was measured by ^{18}O dilution in 40 healthy volunteers (19 women, 21 men), aged 67.7 ± 5.0 years (mean ± SD). ^{18}O dilution space was calculated from the plasma isotopic plateau achieved after the dose was given orally. Resistance (R), reactance (Xc) and impedance (Z) were measured at two frequencies (50 and 100 kHz) with an Analycor3 impedancemeter (Eugedia, France).

TBW (^{18}O dilution) was 34.78 ± 6.74 kg. At 50 kHz, R was 491.1 ± 71.5 Ω and Xc was 42.8 ± 6.6 Ω. At 100 kHz R was 478.6 ± 70.0 Ω and Xc was 32.7 ± 5.5 Ω.

Multiple regression models that minimize the standard error of the estimate (SEE) involved three variables: i) the ratio of height^2 over impedance (H^2/Z, in $cm^2.\Omega^{-1}$), ii) weight (W, in g), iii) gender (S) as a discrete variable (women = 0, men = 1).

Corresponding equations were:
at 50 kHz,

$$TBW\ (g) = 343.2\ H^2/Z + 0.175\ W + 2\ 891.2\ S + 1\ 925.3$$

$r^2 = 0.951$, SEE = 1 556.3
at 100 kHz,

$$TBW\ (g) = 339.9\ H^2/Z + 0.168\ W + 2\ 638\ S + 1\ 975.4$$

$r^2 = 0.955$, SEE = 1 490.0

In conclusion, specific equations were derived that describe TBW in the elderly from impedances at either 50 or 100 kHz. Precision (SEE) of TBW estimates with such models were 1 556 g (4.5%, 50 kHz) and 1 490 g (4.3%, 100 kHz).

Evaluation of weight gain composition using DXA in preterm infants fed HM fortifier or two different preterm formulas.
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Recently reproducibility, accuracy and precision of dual X-ray absorptiometry (DXA) measurements were determined in newborn piglets suggesting that bone mineral content and fat content could be easily evaluated in small subjects. Reference values were also determined at birth in preterm and term infants appropriate for gestational age (n = 107) with body weight ranging from 1 100 to 3 800 g. The aim of the present