



© Kamla-Raj 2007

Human Ecology Special Issue No. 15: 41-49 (2007)

Secular Trends in the Skinfold Thicknesses of Young People in Developed Countries

Tim Olds¹, Grant Tomkinson² and Jim Dollman¹

*1. Nutritional Physiology Research Centre, University of South Australia, GPO Box 2471
Adelaide 5001, AUSTRALIA*

*2. School of Health Sciences, University of South Australia, GPO Box 2471
Adelaide 5001, AUSTRALIA*

*Address for correspondence: Dr. Tim Olds, PhD, Associate Professor, School of Health
Sciences, University of South Australia, GPO Box 2471 Adelaide 5001, AUSTRALIA
Telephone: +61 8 8302 1411, Fax: +61 8 8302 6558, E-mail: tim.olds@unisa.edu.au*

KEYWORDS Anthropometry. Body Fat. Children

ABSTRACT To meta-analyse studies of skinfold thicknesses in young people aged 0-18 years in developed countries. A total of 116 studies were analysed, covering 364,077 young people from 24 countries. Percentage body fat (%BF) was estimated using the Slaughter equations. There have been increases in triceps and subscapular skinfold thicknesses, at the rate of 6-8% per decade over the period 1952-2002. %BF has been increasing at the rate of 1%BF per decade (equivalent to an increase of 6-7% of median values per decade). The rate of increase was greater in boys than in girls, and in younger than in post-pubertal children. The distribution of fat on the body, as indexed by the triceps:subscapular (T:S) ratio, has become more central. There has been an increasing positive skew in the distribution of subcutaneous fat thickness in the population. These trends describe very unfavourable changes in the body composition of young people, foreshadowing a potential increase in the incidence of cardiovascular and metabolic disease.