The consequences of the delayed diagnosis of testicular torsion were a remarkable reduction in the fertility of previously fertile men, the castration of four men, and severely deranged semen profiles in most subjects. The scant clothing worn by the children in our country and unidentified environmental factors may be responsible for the unusual age of patients with testicular torsion in our environment. Testicular torsion must be considered a strong possibility in any male who presents with testicular pain, regardless of his age, particularly in the tropics.

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MORE ON SIMPLIFIED CALCULATION OF BODY-SURFACE AREA

To the Editor: Mosteller (Oct. 22 issue) [1] has introduced a simplified formula for calculating body-surface area (BSA). Unfortunately, the author does not mention whether it is applicable to all ages, since BSA does not have a simple exponential relation with body weight (Wt), height (Ht), or both. We therefore tried to assess the accuracy of the formula when applied to children. The BSA of 168 children between 1 month and 14 years of age was calculated according to the equation suggested by the author:

$$\text{BSA } (m^2) = \sqrt{\frac{\text{Ht (cm)} \times \text{Wt (kg)}}{3600}}.$$

The resulting values were then compared with those derived from the classic 1916 formula of Du Bois and Du Bois[2] and from a nomogram.[3] We found a correlation coefficient ranging from 0.990049 to 0.999372 for various childhood ages.

Hence, we confirm that the simplified formula proposed by the author is equally applicable to children. The close correlation between values obtained with this formula and those obtained with traditional methods further suggests that it is a reliable method for estimating BSA. It is also more convenient to apply in day-to-day clinical practice than a nomogram.

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The above letter was referred to Dr. Mosteller, who offers the following reply:

To the Editor: I am grateful to Drs. Lam and Leung for showing the applicability of the simplified BSA formula to children. My own validation of the equation was based only on evaluations of adolescent and adult subjects.

Because the classic Du Bois equation[1] is widely used as the gold standard for determination of BSA, any alternative formula must correlate strongly with it in order to be clinically useful. Of academic interest, however, is the fact that the Du Bois equation was actually derived from measurements in only nine subjects, only one of whom was a child. In at least one study,[2] the equation has been shown to underestimate BSA in persons with BSAs under 0.7 m^2, particularly newborns. Various investigators have derived more accurate formulas, generally using the following model:

$$\text{BSA} = k \times Ht^a \times Wt^b,$$

where BSA is expressed in square meters, height in centimeters, and weight in kilograms. Because of dimensionality considerations, $a + 3b = 2$ should be true. This has been confirmed by several studies.[1-4] Gehan and George[3] studied more than 400 subjects, the majority of whom were children. In spite of this elaborate work, which yielded different equations for different age ranges, the authors concluded that the simplified equation in which $a = b = 0.5$ yielded acceptably accurate results in the vast majority of their subjects. A slight modification of this equation produced the easy-to-remember formulas previously reported.[5]

A relatively recent study in cadavers by Martin et al.[6] showed that despite apparent numerical differences, many formulas adequately estimate BSA in both adults and children. Accordingly, both the time-honored Du Bois equation (on which most nomograms are based) and the simplified BSA formula generate determinations that are reasonably accurate and that correlate well with each other. The correlation is poorest in short, obese adult subjects; however, either equation should suffice for clinical decision making, in both pediatric and adult medicine.

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THE REFORM OF HEALTH CARE

To the Editor: Dr. Dickman and his colleagues have hit the nail squarely on the head (Oct. 22 issue).* A universal, comprehensive, publicly administered national health program is the only way simultaneously to extend access, control costs, and reclaim medicine from the bureaucrats. Numerous polls conducted over the past 20 years have shown that the American people want such a program, and 67 percent of Massachusetts voters favored a national health program in a referendum last year. We and the 700 other members of Physicians for a National Health Program invite our colleagues to join in advocating this much-needed reform.

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*Dickman RL, Ford AB, Liebman J, Milligan S, Schorr AL. An end to patchwork reform of health care. N Engl J Med 1987; 317:1086-9.

To the Editor: Dickman et al. state, "Patchwork reforms have been undertaken, only to be allowed to wither away (as has happened to the National Health Service Corps and neighborhood health centers)." Neither of these programs has withered away. The program of community health centers is strong and provides services to an increasing number of people. It has evolved from a 1960s experiment with some 150 grantees, mostly in large cities, to a nationwide network of 565 rural and urban grantees. These centers constitute the principal source of primary health care for 5.7 million low-income people. The centers provide primary care in a community-based setting by accepting the responsibility of providing or coordinating all levels of service for those who would otherwise find access difficult. Consequently, they are often preferred as contractors by