α-Tocopherol adipose tissue stores are depleted after burn injury in pediatric patients. M. G Traber, S. W Leonard, D. L Traber, L. D Traber, J. Gallagher, G. Bobe, M. G Jeschke, C. C Finnerty, and D. Herndon, *Am. J. Clin. Nutr.*, **92**, 1378-1384 (2010).

Background: We previously showed that thermal injury depletes plasma vitamin E in pediatric burn patients; however, plasma changes may reflect immediate alterations in vitamin E nutriture. Adipose tissue α-tocopherol concentrations are generally accepted to reflect long-term vitamin E status.

Objective: To test the hypothesis that thermal injury depletes body stores of vitamin E, α-tocopherol concentrations were measured in adipose tissue samples.

Design: Pediatric patients (n = 8) were followed up to 1 y after burn injury. Surgically obtained samples were collected at various intervals and stored at 280℃ in a biorepository. α- and γ-Tocopherols, cholesterol, and triglycerides were measured in the same tissue aliquot.

Results: During the first week after injury, adipose tissue α-tocopherol concentrations were within the expected normal range of 199 ± 40 nmol/g adipose tissue but were substantially lower at weeks 2 and 3 (133 ± 13 and 109 ± 8 nmol/g adipose tissue, respectively). Individual rates of decrease, estimated by linear regression, showed that adipose tissue α-tocopherol decreased by an average of 6.1 ± 0.6 nmol/g daily. During the first month after injury, adipose tissue triglyceride concentrations also decreased, whereas no changes in cholesterol concentrations occurred.

Conclusions: These data emphasize that the burn injury experienced by these pediatric patients altered their metabolism such that vitamin E status diminished during the month after injury. Further studies are needed to evaluate the mechanism and consequences of the observed vitamin E depletion. This trial was registered at clinicaltrials.gov as NCT00675714.