

Erratum



Recovery from Severe Spinal Cord Injury by Immune-Based Therapy: Kinematic Analysis

Erratum: In the September 24, 2003 issue, the correct version of the legend corresponding to the cover picture was not used. The cover legend should have read “**Cover picture:** Green dots on stick figures represent tracked markers, red discs represent feet in support phase, and red open circles represent feet in swing phase. The footprint trail of each rat is shown in gray, with green representing establishment of foot contact with substrate and red representing release of foot contact. Arrows indicate heel-to-digits direction of hind foot. Note dragging of rotated hind legs with hardly any stepping in the injured animal (left), loose contact of left hind digits and near-normal stepping of right hind leg of the treated rat (center), and normal footprint pattern in the intact rat (right).” The cover picture shows stick figures, obtained by kinematic analysis of the data presented in the manuscript by Hauben et al. in the same issue (*J Neurosci* 23:8808–8819) as part of the collaborative research between the Department of Zoology of Tel-Aviv University (I. Hartman, E. Gruntman, and I. Golani) and the Department of Neurobiology of The Weizmann Institute of Science (E. Hauben, A. Gothilf, and M. Schwartz). The picture

depicts an animated reconstruction of the gait of a rat after severe spinal cord contusive injury (left), a recovered rat after treatment with dendritic cells pulsed with an altered peptide derived from myelin basic protein (center), and a healthy rat (right). Recovered motor activity after spinal contusion is currently characterized by a one-dimensional locomotion scale established by experienced observers on the basis of visual examination of rats in real time. To upgrade the measurement process for the kinematic analysis, the data were acquired via high-resolution video-based tracking of 11 points on the ventral side of the rat. Algorithmic analysis yields some 20 key kinematic parameters representing the rat’s whole-body unrestrained locomotor behavior. Subsequent analysis uses a dynamic systems approach combined with movement notation analysis, creating a multidimensional quantitative description of locomotor recovery. Within this framework, stepping behavior and footprints are described in a variety of body-related reference frames, some of which highlight invariant kinematic properties (<http://www.tau.ac.il/~ilan99/see/multilimb>).