Clinical Image

Exclusive Image Gallery on Human Spinal Cord Regeneration

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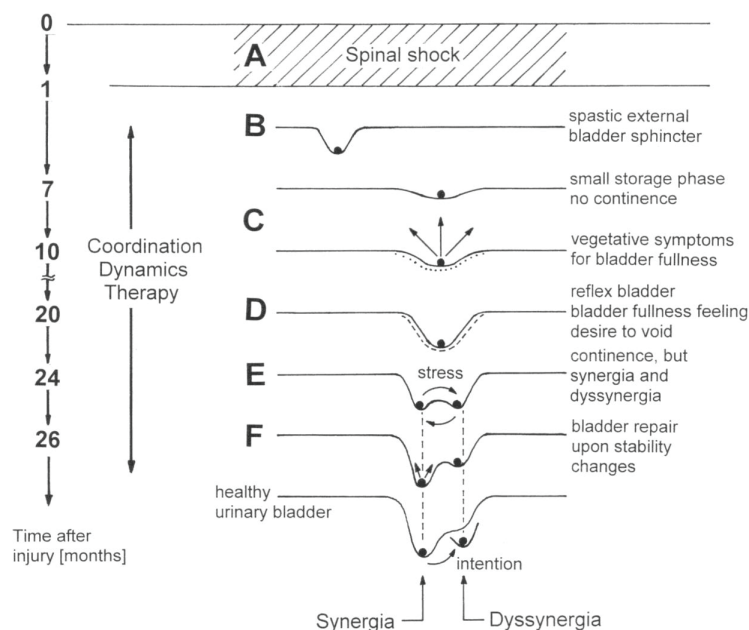***Corresponding author:** Giselher Schalow, Professor, Untere Kirchmatte 6, CH-6207 Nottwil, Switzerland, E-mail: g_schalow@hotmail.com

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Figure 31: Evolution of the attractor layout of bladder functioning induced by learning transfer from movements to bladder functions upon CDT. The region around each local minimum of the potential landscape acts like a well that weekly traps the system into a coordinated state. Black balls correspond to stable minima of the potential. With learning, the pattern 'spasticity of the external bladder sphincter' vanishes and the patterns for bladder functioning ('synergy' and dyssynergia') appear anew and gain their physiologic stability (physiologic deepness of each basin of attraction). The corresponding attractor layout for physiologic bladder functioning is given. Fluctuation of pattern state (the black ball) (C), and their decrease (F), due to the impairment of phase and frequency coordination of neuron firing, is pictured in 'C' and 'F' by long and short arrows. Dotted and dashed lines indicate the re-occurrence of bladder sensation. Note that more than two years of optimal continuous CDT were needed for bladder repair.