

## Rehabilitation Team after Brain Damages as Complex System Integrating Consciousness

**Authors :** Olga Maksakova

**Abstract :** A work with unconscious patients after acute brain damages besides special knowledge and practical skills of all the participants requires a very specific organization. A lot of said about team approach in neurorehabilitation, usually as for outpatient mode. Rehabilitologists deal with fixed patient problems or deficits (motion, speech, cognitive or emotional disorder). Team-building means superficial paradigm of management psychology. Linear mode of teamwork fits casual relationships there. Cases with deep altered states of consciousness (vegetative states, coma, and confusion) require non-linear mode of teamwork: recovery of consciousness might not be the goal due to phenomenon uncertainty. Rehabilitation team as Semi-open Complex System includes the patient as a part. Patient's response pattern becomes formed not only with brain deficits but questions-stimuli, context, and inquiring person. Teamwork is sourcing of phenomenology knowledge of patient's processes as Third-person approach is replaced with Second- and after First-person approaches. Here is a chance for real-time change. Patient's contacts with his own body and outward things create a basement for restoration of consciousness. The most important condition is systematic feedbacks to any minimal movement or vegetative signal of the patient. Up to now, recovery work with the most severe contingent is carried out in the mode of passive physical interventions, while an effective rehabilitation team should include specially trained psychologists and psychotherapists. It is they who are able to create a network of feedbacks with the patient and inter-professional ones building up the team. Characteristics of 'Team-Patient' system (TPS) are energy, entropy, and complexity. Impairment of consciousness as the absence of linear contact appears together with a loss of essential functions (low energy), vegetative-visceral fits (excessive energy and low order), motor agitation (excessive energy and excessive order), etc. Techniques of teamwork are different in these cases for resulting optimization of the system condition. Directed regulation of the system complexity is one of the recovery tools. Different signs of awareness appear as a result of system self-organization. Joint meetings are an important part of teamwork. Regular or event-related discussions form the language of inter-professional communication, as well as the patient's shared mental model. Analysis of complex communication process in TPS may be useful for creation of the general theory of consciousness.

**Keywords :** rehabilitation team, urgent rehabilitation, severe brain damage, consciousness disorders, complex system theory

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