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## How chaoticity and randomness control human health

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### Abstract

We discuss the fundamental role that chaoticity and randomness play in the determination of quality and efficiency of medical treatment. The statistical parameter of non-Markovity from non-equilibrium statistical physics of condensed matters is offered as a quantitative information measure of chaoticity and randomness. The role of chaoticity and randomness is determined by the phenomenological property, which includes quantitative informational measures of chaoticity and randomness and pathology (disease) in a covariant form. Manifestations of the statistical informational behavior of chaoticity and randomness are examined while analyzing the chaotic dynamics of RR intervals from human ECG's, the electric signals of a human muscle's tremor of legs in a normal state and at Parkinson disease, the electric potentials of the human brain core from EEG's during epileptic seizure and a human hand finger tremor in Parkinson's disease. The existence of the above stated informational measure allows to introduce the quantitative factor of the quality of treatment. The above-stated examples confirm the existence of new phenomenological property, which is important not only for the decision of medical problems, but also for the analysis of the wide range of problems of physics of complex systems of life and lifeless nature.

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