

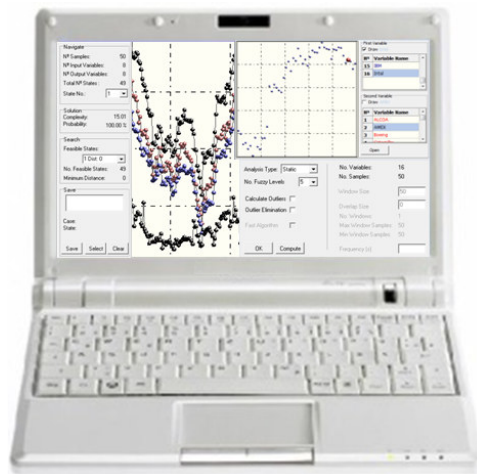
## Measuring Patient Stability

### TECHNOLOGY

The COSMOS™ device works based on complexity measures developed by Ontonix. The concept is to measure fluctuations of complexity versus time to quantify stability.

### WHY COMPLEXITY?

Because modern science lacks a holistic perspective favoring super-specialization, a patient is rarely seen and treated as multi-organ dynamic system of systems. Due to this cultural limitation and because of the overwhelming complexity of the human body, only on very rare occasions is medical science quantitative. Our mission is to deliver a technology which will provide the medical community with quantitative and holistic information on the state of a patient, as well as on the impact of treatment.



- COSMOS™ is a PC-based device. It may process up to 100 channels in real-time, including all the possible couplings.
- Because a model-free approach is adopted, the results are independent of mathematical modeling that invariably impacts the outcome.



Ontonimed introduces the COSMOS™ (Complexity-based Stability Monitoring System) a PC-based multi-channel real-time device which quantifies the stability of hospitalized patients. Based on streaming data, originating from sensors and other monitoring devices such as those in an Operating Room or an Intensive Care Unit, the device computes the instantaneous degree of stability of a patient. The system also signals when the mentioned stability undergoes changes due to traumas, side-effects of treatment or any other dynamic mutations within the patient's organism. The device is unique in that it processes simultaneously all channels, analyzing all the potential cross-relationships, delivering a truly holistic view of the patient. Most importantly, since the collected data is processed by the system according to a model-

-free technique, the measure of stability of the patient is not biased by any particular mathematical approach.

Data in an ICU is complex and of dynamical nature. It is characterized by strong variability and is highly non-stationary, presenting couplings between channels. Complexity quantification allows capturing and integrating different ICU-specific data to generate a single, holistic measure which is indicative of patient stability.

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