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Biomedical Research Institute

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ODyScore: A diagnostic and Decision-Support Software for Sepsis and Septic Shock Management

DESCRIPTION OF THE TECHNOLOGY

Sepsis is the body's dysregulated response to an infection (bacteria, viruses, fungi), causing a syndrome characterized by organ dysfunction, which can lead to multiple organ failure and death if not recognized and treated early. Septic shock is a subset of this syndrome in which circulatory, cellular, and metabolic abnormalities become so severe that they are associated with an increased.

Sepsis is a public health problem, as its incidence is increasing due to an aging population, immunosuppression, the emergence of multidrug-resistant bacteria, and antibiotic resistance. It is the most common cause of mortality in most hospital intensive care units.

Early detection and prompt initiation of treatment are key factors in improving prognosis, making it essential to have tools that can identify patients at higher risk of unfavorable outcomes.

Currently, there are no effective tests for the early diagnosis of sepsis and septic shock, nor are there any effective markers for prognosis or to facilitate the clinical management of patients.

Researchers from INCLIVA, UV, and EpiDisease S.L. (spin-off of both institutions) have developed a platform based on three artificial intelligence models that allows sepsis patients to be identified using clinical history and background data, immediately collected physiological variables in real time, and analytical results that are progressively incorporated. This allows for the sequential evaluation and monitoring of the risk of developing sepsis in hospitalized patients as new clinical information becomes available.

APPLICATION

Hospitals, especially those with intensive care units and emergency services.

Companies that sell medical devices, diagnostic medical devices, and sepsis products.

Health tech companies, electronic health record (EHR) system developers, and AI companies interested in integrating the model into their platforms.

COLABORATION SOUGHT

Diagnostic medical device companies interested in signing a license agreement to market the software or an agreement to collaborate in the implementation of this technology.

ADVANTAGES

- ✓ Real-time assessment and monitoring based on multiple variables.
- ✓ Early identification of patients at high risk of developing sepsis.
- ✓ Ability to identify patients at greatest risk.
- ✓ Personalized, rapid, and accurate treatment.
- ✓ Predicting the progression of the disease.
- ✓ AI-based diagnostic system for automatic decision-making based on the integration of clinical, analytical, and physiological data.
- ✓ Risk stratification that allows for the optimization of clinical resources.

STATE OF DEVELOPMENT

Software developed using real clinical samples from 440 patients admitted to the Intensive Care Unit at the University Clinical Hospital of Valencia and other hospitals. Tests must be carried out in a real environment to improve the diagnostic and prognostic software.

INTELLECTUAL PROPERTY RIGHTS

Software registered under number SWF2025_02 on October 23, 2025.

CONTACT

INCLIVA Innovation Unit

+34 961 628 922 / 961 628 923 innovacion@incliva.es

