In 2011 alone, some 175,000 patients suffered from sepsis in Germany. Worldwide some one and a half million people contract sepsis – almost half of them die of septic shock. Sepsis is the number one cause of death in surgical intensive care units*.

Apart from fundamental hygiene, the early recognition of the onset of sepsis and the corresponding therapeutic measures help to minimize the risk of death. Nevertheless, the early recognition of sepsis is still a challenge. One reason for this is that sepsis is neglected in medical education and is only partially covered during advanced trainings. Every clinic therefore has a different level of knowledge. Making things more difficult is the fact that the clinical signs and the laboratory findings that are used in the diagnosis, for example, rapid pulse, high respiratory rate or the white blood cell count are not specific to sepsis. In the increasingly hectic and stressful daily routine of a hospital, the possibility of the presence of sepsis is all too seldom considered. Particularly since in most institutions, approved, systematic diagnostic protocols don’t exist.

With sepsis, the chances of treatability and survival increase significantly within an hour of diagnosis, the so-called “Golden Hour.” On the contrary, with every delay in treatment, the chances of survival sink by up to eight percent* per hour. The guidelines of the German Sepsis Association (DSG) and the Surviving Sepsis Campaign (SSC) serve as the basis for defining which parameters should be considered and evaluated as indicators of sepsis*.

To better overcome the challenge of sepsis and provide you effective assistance in the early recognition of sepsis, the Dräger software SmartSonar Sepsis was developed. In the same way that sonar reveals not only the tip of the iceberg, but also the danger lurking under the surface, SmartSonar Sepsis functions in this way with the issue of sepsis. The electronic file collects and documents the patient values. With the guideline-based software, the clinical circumstances of patients are analyzed in a dynamic, continual and systematic way with regard to the early signs of sepsis.

With SmartSonar Sepsis, Dräger strives to bring new standards to the early recognition and assessment of an onset of sepsis. The workflow oriented software makes it possible for medical personnel, according to the guidelines of the SSC and the DSG, to perceive dynamic changes in the condition of patients earlier and initiate decisive treatment as soon as possible.

Dräger SmartSonar Sepsis informs quickly, clearly and in detail about all sepsis relevant stages for sepsis:

- Systemic Inflammatory Response Syndrome (SIRS)
- SIRS und organ dysfunction
- Sepsis
- Severe sepsis
- Septic shock
Under close observation
The early recognition and unambiguous interpretation of patient data is extremely difficult for sepsis because of the unspecific symptoms. The precise observation of vital signs and conditions relative to diagnosis is therefore of cardinal importance for the safe and quality-oriented care of critically ill patients. Ideally this happens via an electronic documentation system that brings all necessary information about the patient’s treatment together. SmartSonar Sepsis is a highly specialized software which allows you to recognize all the dynamic processes of sepsis early. As a result, the diagnosis is accelerated significantly.

Promptly recognize, decide, treat
As a functional extension of Innovian Critical Care*, SmartSonar Sepsis presents all relevant vital signs such, that the onset of sepsis as well as organ dysfunction can be recognized at a glance. Efficient algorithms weigh the actual vital data on the basis of the sepsis guidelines and display the result clearly and intuitively. This enables the introduction of therapeutic measures within the “Golden Hour.” The Dräger software SmartSonar Sepsis increases patients’ safety. It is based on the sepsis guidelines and assists by compliance with them. The compliance with the guidelines is associated with shortened treatment period, lower mortality and reduced costs**.

* Innovian Critical Care is a clinical information system provided by Dräger.
** Source: Brunckhorst F, Reinhart K. Prevention, diagnosis, therapy and follow-up care of sepsis: 1st revision of S-2k guidelines of the German Sepsis Society (Deutsche Sepsis-Gesellschaft e.V. (DSG) and the German Interdisciplinary Association of Intensive Care and Emergency Medicine (Deutsche Interdisziplinäre Vereinigung für Intensiv- und Notfallmedizin DIVI)) GMS Ger Med Sci 2010;8: Doc14 doi: 10.3205/00010
Patients list (overview page)
- Integration of all relevant patient data from the Innovian Critical Care databank via the browser based software.
- The ability to call up the overview page is possible within the Innovian Critical Care software without having to login again.
- Assessment of the relevant vital signs according to the DSG and SSC defined guidelines by an efficient algorithm.
- Fast and intuitive assessment of patients' data including the current severity of the sepsis is possible for multiple patients over multiple wards.
- Visualization of the stages of sepsis via clearly differentiated stage icons.
- Fully automated assessment and classification of up to 30 vital signs, all individual historical data from the last 24 hours and further important diagnostic information (e.g. laboratory results)
Patients detail page
The patients detail page visualizes all vital signs relevant to diagnosis at a glance:
- Intuitive graphic display of the historical development of all diagnostically relevant vital data
- 24 hour trend history of all relevant patient vital signs
- Summary and grouping of relevant parameters for simplified interpretation
- Correlated display of the complete, diagnosis relevant parameters on one display
- Indication of existing organ dysfunctions which could indicate severe sepsis in correlation with SIRS parameters
- Clear tracing – from the data evaluation to the SIRS or sepsis diagnosis
- Display of the defined norms in parameter context
Patients log book

The patients log book delivers further important information intuitively and in detail:

– Record of all diagnostic decisions over a history from 24 hours to up to seven days in a clear form
– Recognition at a glance: Progression of diagnoses detected by the system (SIRS, SIRS and organ dysfunction, sepsis, severe sepsis, septic shock)
– Clear traceability of information via SmartSonar Sepsis as well as the progression of the infection and medical decisions made
– Optimal overview of the context of an entry in the disease progression via an automatic time registry
– Chronological display of vital data recording, the sepsis status, confirmation status and notes as well as critical parameters in the form of a log book
When every minute counts.

Nursing staff
In your daily work, the SmartSonar Sepsis can assist you by providing a transparent overview of all your patient’s current vital signs and clinical situations at all times. The informative visual display of SmartSonar Sepsis assists you in your daily clinical work. The software continuously displays the available data. For you, a helpful relief. If your patients’ data show a change in the sepsis status, you recognize it quickly and easily.

Doctors
All relevant parameters for making decisions at a glance: SmartSonar Sepsis helps with the early recognition of potential infections. Thanks to the Decision Support Software, the current state of the sepsis is identified. Consequently, you can immediately initiate the necessary steps for treatment. The dynamic and automated process - based on the guidelines of the DSG and SSC – allows the recognition of all the grades of severity of a sepsis. SmartSonar Sepsis is always ready and available where you need information on the status of the sepsis: at the patient’s bed, in your office or in the ward’s central area. Relevant changes in status can also be forwarded to pagers or smartphones via email or modern communication systems.

IT department
SmartSonar Sepsis needs very minimal maintenance and service: The software from Dräger is simple to implement and just as easy to maintain. Data communication with Innovian Critical Care is secured with state-of-the-art SSL encryption. SmartSonar Sepsis is a browser-based, functional extension of Innovian Critical Care. With the ESPA-X interface, SmartSonar Sepsis can also be integrated into current clinic-wide communication systems.
Quality management

SmartSonar Sepsis makes the compliance with the clinic’s standards and procedures easier through automatic display of current guidelines. The early signs of sepsis assist the doctors’ work of diagnosis and treatment planning. Consequently, the patients’ safety is likewise increased. Moreover, effective utilization is ensured because the software is available and accessible everywhere along the clinical process. And not only that: SmartSonar Sepsis can be used for the training of clinical personnel in the early recognition of clinical sepsis.

Clinic management

More than 160 direct or indirect deaths due to sepsis per day and cost of up to EUR 60,000 for each case of treatment*? That is too much and you would like to prevent it: Excellent process quality and the compliance to guidelines with SmartSonar Sepsis make for optimized treatment and the best chances for survival for your patients. Furthermore, the pioneering technology assists your staff in providing the best patient care possible. That’s how you increase staff satisfaction and can also make top medical professionals aware of your clinic.

* Original source: Information from the Center for Sepsis Control and Care (CSCC) (www.cscc.uniklinikum-jena.de)