

# Biomarkers of Sepsis

Published: 09-09-2011

Last updated: 29-04-2024

In this study we aim to study the dynamics of biomarkers and to develop a predictive model for septic ICU-patients enabling the clinician to make a customized risk stratification and asses the patient\*s immune status.

<b>Ethical review</b>	Approved WMO
<b>Status</b>	Recruitment stopped
<b>Health condition type</b>	Ancillary infectious topics
<b>Study type</b>	Observational invasive

## Summary

### ID

NL-OMON36012

### Source

ToetsingOnline

### Brief title

Biomarkers of Sepsis

### Condition

- Ancillary infectious topics

### Synonym

blood poisoning, sepsis

### Research involving

Human

### Sponsors and support

**Primary sponsor:** Universitair Medisch Centrum Utrecht

**Source(s) of monetary or material Support:** Center for Translational Molecular Medicine (CTMM)

### Intervention

**Keyword:** biomarkers, intensive care unit, predictive model, sepsis

## Outcome measures

### Primary outcome

Endpoints include pathogen etiology, systemic inflammatory parameters and MODS.

The endpoints will enable us to develop a predictive model for risk stratification for sepsis and provides insight in the pathophysiologic processes of sepsis and might lead to novel therapeutic interventions.

### Secondary outcome

nvt

## Study description

### Background summary

Sepsis is a common clinical entity in Intensive Care Unit (ICU)-patients. Despite many years of research, sepsis is still the second leading cause of death in these patients. Sepsis occurs as a complication of a local infection when microorganisms invade the host's bloodstream and cause systemic inflammation. The systemic response to pathogens can lead to a disproportionate activation of pro- and anti-inflammatory mediators, resulting in a state of hyperinflammation. This exaggerated immune response can induce organ dysfunction and results in the multi organ dysfunction syndrome (MODS). Through the years, investigating the pathophysiology of sepsis has proven to be extremely difficult due to the heterogeneous character of this disease with its multiplicity in etiology and the complex immune system as effector.

### Study objective

In this study we aim to study the dynamics of biomarkers and to develop a predictive model for septic ICU-patients enabling the clinician to make a customized risk stratification and assess the patient's immune status.

### Study design

This is a longitudinal observational study.

### Study burden and risks

Septic patients are subjected to collection of blood samples 3 times a day for up to 7 consecutive days.

Patients will not directly benefit from participating in this study due to its observational design. Future patients with sepsis, however, could benefit of the outcome of this study. During this study participating patients will not be exposed to any additional health risks.

During this study, patients will be subjected to a daily blood draw of 13.5 ml per day. Considering this is a mere 0.2 percent of the total circulating volume, this will not attribute to any of the patients burdens, nor result in an additional risk.

## Contacts

### **Public**

Universitair Medisch Centrum Utrecht

Heidelberglaan 100  
3584 CX Utrecht  
NL

### **Scientific**

Universitair Medisch Centrum Utrecht

Heidelberglaan 100  
3584 CX Utrecht  
NL

## Trial sites

### Listed location countries

Netherlands

## Eligibility criteria

### **Age**

Adults (18-64 years)

Elderly (65 years and older)

## Inclusion criteria

- Age > 18 years
- Presence of an arterial line
- Patients who score positive for sepsis according to the Bone criteria (at least 2 SIRS criteria plus clinical suspicion of infection).

## Exclusion criteria

- No informed consent.
- Patients receiving > 48 hours of antibiotic treatment for a suspected infection prior to ICU admission.
- Previous participation in this study.

## Study design

### Design

**Study type:** Observational invasive

Masking: Open (masking not used)

Control: Uncontrolled

Primary purpose: Basic science

### Recruitment

NL

Recruitment status: Recruitment stopped

Start date (anticipated): 13-10-2011

Enrollment: 500

Type: Actual

## Ethics review

Approved WMO

Date: 09-09-2011

Application type: First submission

## Study registrations

### Followed up by the following (possibly more current) registration

No registrations found.

### Other (possibly less up-to-date) registrations in this register

No registrations found.

### In other registers

Register	ID
CCMO	NL36738.041.11