

Vantive



OXIRIS

Oxiris is the **ONLY blood purification filter set** to effectively remove inflammatory mediators, endotoxin, fluid, and uremic toxins simultaneously.

Common acute conditions underpinned by a dysregulated inflammatory mediator response include **sepsis**^{1,2} and possibly **severe COVID-19**.^{3,4}

In the ICU, a dysregulated inflammatory mediator response may result from:^{3,5-12}



INFECTION



TRAUMA



ACUTE DISEASE



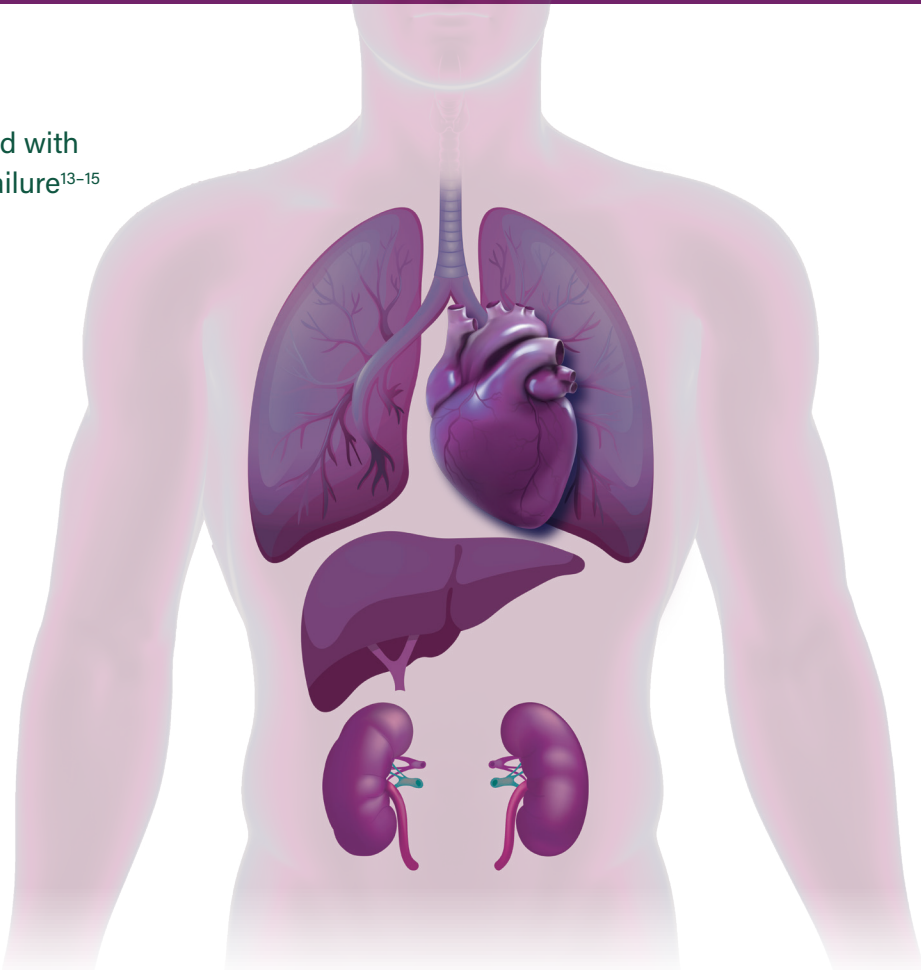
CERTAIN THERAPEUTIC INTERVENTIONS

Sepsis is a major **global healthcare challenge**.²⁴



COMMON CLINICAL FEATURES OF SEPSIS:

- ✓ **ELEVATED ENDOTOXIN**
High endotoxin activity is associated with greater illness severity and organ failure¹³⁻¹⁵
- ✓ **ELEVATED CYTOKINES**
Elevated plasma cytokine levels, particularly IL-6, are associated with an increased risk of mortality following ICU admission in patients with sepsis or septic shock¹⁶⁻¹⁹
- ✓ **ORGAN FAILURE**
Elevated inflammatory mediator levels can contribute to disease pathophysiology and poor patient outcomes, including mortality and the progression of organ failure¹³⁻²³



SEPSIS IS COMMON IN THE HOSPITAL SETTING



A dysregulated inflammatory mediator response to an external trigger, as characteristically occurs in sepsis and is often present in severe COVID-19,^{2,3} is a pathophysiologic process that can contribute to the progression of multi-organ failure and poor patient outcomes.¹³⁻²³

Blood purification is the only therapy that may effectively remove inflammatory mediators, DAMPs, and/or PAMPs (e.g. endotoxin),² which may help mitigate progression to multi-organ failure.³¹⁻³⁸

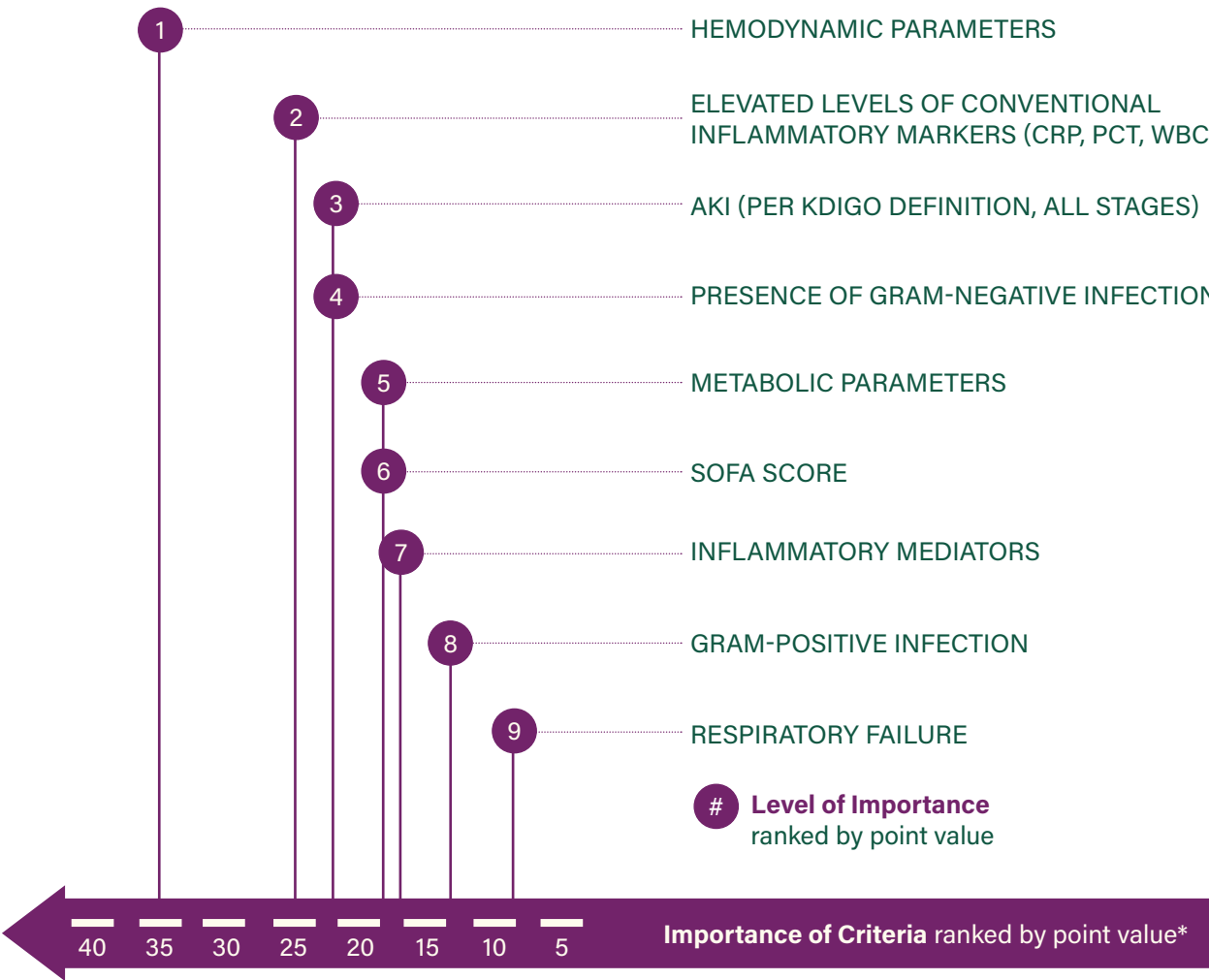
Sepsis and Septic shock are a major global healthcare burden.^{5,24} Blood purification therapies may help improve outcomes.^{32-35,40}



The **Oxiris** set has the unique capability to effectively remove endotoxin (a PAMP) and a broad range of inflammatory mediators from the blood.^{32,36,40,41}

Experts considered hemodynamic parameters to be their top factor in deciding initiation of treatment with the **Oxiris** set.⁴²

KEY CONSIDERATIONS IN THE INITIATION OF TREATMENT WITH **OXIRIS** IN PATIENTS WITH SEPTIC SHOCK, AS RANKED BY EUROPEAN UNION EXPERT USERS (N=14)⁴²



*Experts individually listed their top criteria regarding when to initiate treatment with the **Oxiris** set. Four subgroups then ranked each criterion, with the top-ranked given the highest score. Scores from subgroups were consolidated, ranked by the sum of their scores, with the higher scores representing those factors the group considered most important.⁴²

CRP, C-reactive protein; PCT, procalcitonin; SOFA, Sequential Organ Failure Assessment; WBC, white blood cells

Experts believed that rapid assessment of hemodynamic criteria was critical to treatment success in patients with septic shock; they used hemodynamic parameters as a primary factor determining when to initiate treatment with the **Oxiris** set.⁴²



VERSATILITY, SIMPLIFIED.



VERSATILE INNOVATION

The **Oxiris** set can be used to deliver hemoperfusion to reduce elevated levels of inflammatory mediators/endotoxin and/or to deliver any **CRRT modality** (SCUF, CVVH, CVVHD, CVVHDF) to provide uremic toxin removal and support fluid management.⁴³

CVVH, Continuous Veno-Venous Hemofiltration; CVVHD, Continuous Veno-Venous HemoDialysis; CVVHDF, Continuous Veno-Venous HemoDiaFiltration; SCUF, Slow Continuous UltraFiltration



VERSATILE BLOOD PURIFICATION

INFLAMMATORY MEDIATOR REMOVAL

A prospective, multicenter, observational study reported a significant decrease from baseline in serum IL-6 levels in patients with COVID-19 treated with the **Oxiris** set.³⁶

ENDOTOXIN REMOVAL

A randomized, crossover study reported significantly greater changes from baseline in endotoxin level with the **Oxiris** set compared to the **AN69 ST** filter set in patients with septic shock.⁴⁰



VERSATILE SIMPLIFICATION

The **Oxiris** set is designed to simplify blood purification therapy for patients requiring removal of both inflammatory mediators and endotoxin.⁴³

The **Oxiris** set is part of a pre-connected set for simplicity. The closed system includes a filter membrane pre-connected to the color-coded tubing, minimizing set-up steps and reducing potential for touch contamination.^{43,44}

Evidence suggests that the **Oxiris** set is associated with clinical improvement in organ function (as measured by SOFA score) and hemodynamic parameters.^{31–33,36,38,40}

Oxiris is the **ONLY blood purification filter set** to effectively remove inflammatory mediators, endotoxin, fluid, and uremic toxins **SIMULTANEOUSLY**.^{32,36,40,41,43}

FUNCTIONAL BENEFITS

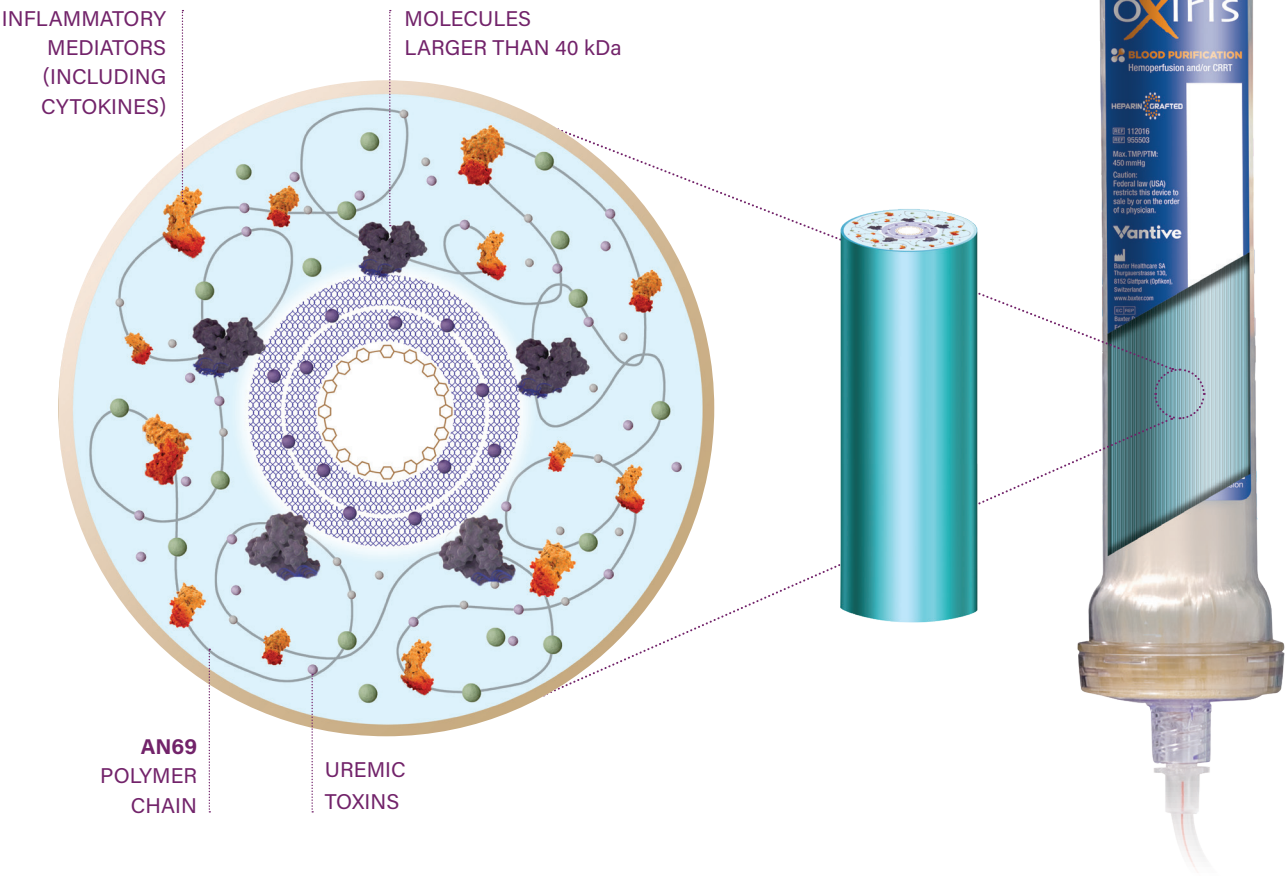
The **Oxiris** set has a 3-layer membrane:^{2,45,46}

- 1

Permanent heparin graft on the inner membrane surface
- 2

Polyethyleneimine surface treatment
- 3

AN 69 membrane technology—a copolymer of acrylonitrile and sodium methallylsulfonate

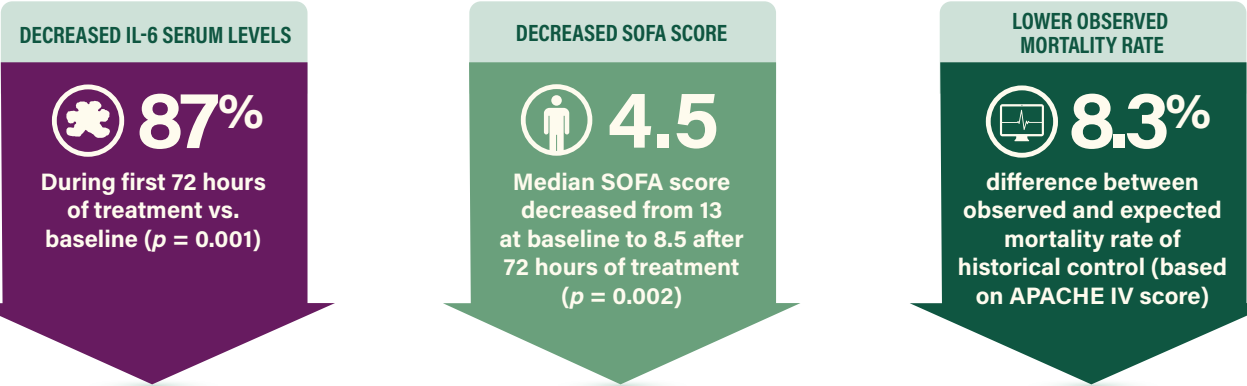


Elevated inflammatory mediator levels can potentially contribute to multi-organ failure and mortality in critically ill patients with severe COVID-19.^{20–23}

- ✓ Systemic inflammation in patients with COVID-19 can lead to **multi-organ failure, including AKI**.^{20,21}
- ✓ Blood purification techniques have been shown to remove cytokines, endotoxin, and circulating virus particles in patients with COVID-19.³
- ✓ Blood purification therapies in combination with RRT can **support kidney function** while **reducing levels of inflammatory mediators** in patients with COVID-19.^{36,37}

Oxiris may have a role in the management of severe COVID-19 infection.

Prospective, observational study of COVID-19 patients (n=37) admitted to an ICU in Italy between February and April 2020. Patients were treated with extracorporeal blood purification (EBP) using **Oxiris** set for immunomodulation and/or support of kidney function during AKI.³⁶



Blood purification is the only therapy that may effectively remove inflammatory mediators, damage-associated molecular patterns (DAMPs), and/or pathogen-associated molecular patterns (PAMPs, e.g., endotoxin),² which may help mitigate progression to multi-organ failure.^{31–38}

The **Oxiris** set is designed to simplify blood purification therapy delivery for patients requiring removal of both inflammatory mediators (cytokines) and endotoxin (a PAMP) simultaneously during CRRT,^{41,43} which may free up nursing time.



DESIGNED TO BE USED WITH PRISMAX/PRISMAFLEX SYSTEMS

The **Oxiris** set has a simple easy integration with **PrisMax/Prismaflex** systems (the world leader in CRRT equipment).^{43,47,48}



POTENTIAL TO REDUCE NURSING TIME AND TOUCH CONTAMINATION

The **Oxiris** set is part of a pre-connected set for simplicity. The closed system includes a filter membrane pre-connected to the color-coded tubing, minimizing setup steps and reducing potential for touch contamination.^{43,44}



REAL-WORLD EXPERIENCE

Over 300,000 units sold.⁴⁹



EXPERIENCED CLINICAL SUPPORT

Vantive's experienced clinical team provides tailored training and shares best practices to enable you to maximize your critical care program.



ORDERING INFORMATION

Product	Code N°	N° units/box
Oxiris set	973003	4



THE ICU IS A COMPLEX ENVIRONMENT.
WHAT IF YOU WERE EQUIPPED
WITH POWERFUL **SIMPLICITY?**



OXIRIS INDICATION:

The **Oxiris** set is indicated for use in critically ill patients with a body weight equal or greater than 30 kg (66 lb) for hemoperfusion and/or renal replacement modalities such as:⁴³

- > Slow Continuous UltraFiltration (SCUF)
- > Continuous Veno-Venous Hemofiltration (CVVH)
- > Continuous Veno-Venous HemoDialysis (CVVHD)
- > Continuous Veno-Venous HemoDiaFiltration (CVVHDF)

When used for hemoperfusion only, the SCUF mode shall be used with no fluid removal prescription, as the indication is to reduce elevated levels of inflammatory mediators, such as cytokines, and to reduce endotoxins.⁴³

If patients suffer from acute kidney injury and/or volume overload, the **Oxiris** set is indicated for continuous renal replacement therapies (CRRT), to perform fluid management and removal of uremic toxins. The removal of inflammatory mediators and endotoxins is performed simultaneously when indicated for CRRT.

References:

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For safe and proper use of the devices mentioned herein, please refer to the Instructions for Use.

