



SOLACEA™

HIGH FLUX, ATA™ FIBER DIALYZER



SOLACEA : Your membrane of choice for high flux HDF

State of the art fiber spinning technology: Asymmetric cellulose triacetate fibers

Dense layer at blood side

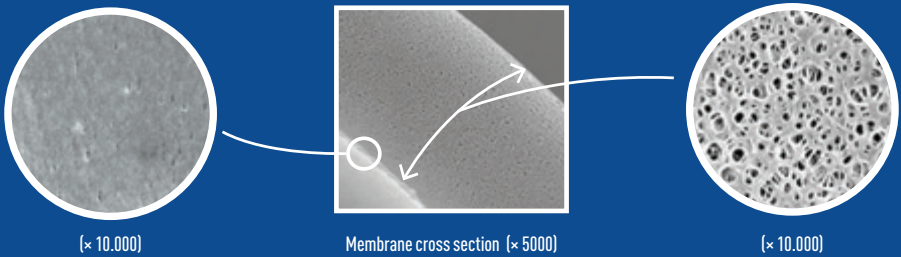
Filter function:

small pores allow selective removal of uremic toxins while ensuring low albumin loss

Support layer at dialysate side

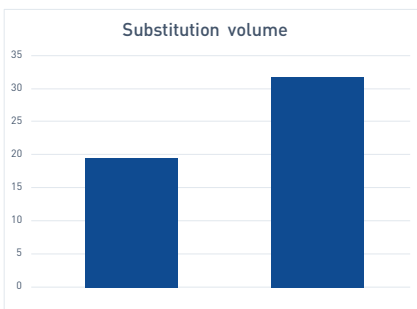
Support function:

bigger pores for minimal pressure buildup with high fluxes



Obtain high convective volumes

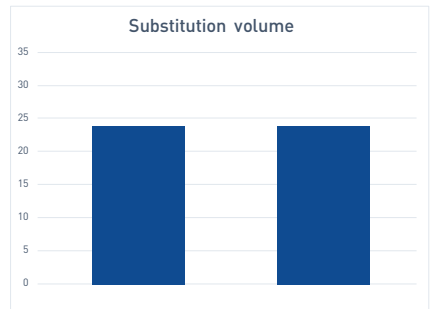
Symmetric versus asymmetric cellulose triacetate membrane ¹



Test conditions:

$Q_b = 462$ ml/min, $Q_d = 500$ ml/min

Synthetic versus asymmetric cellulose triacetate membrane ²



Test conditions:

$Q_b = 350$ ml/min, $Q_d = 600$ ml/min

High volumes HDF,
low transmembrane pressure

The solution for your allergic patient

Common misinterpretations in daily practices

Allergic hypotension to polysulfone membranes misinterpreted as cardiovascular-related complications³

Female patient (84 years old) presented with hypotension, precordial pain, and occasional dyspnea and chest tightness during hemodialysis.

Symptoms were first attributed to her cardiovascular history.

Oxygen therapy and low ultrafiltration rate did not improve symptoms.

Solution:

When switched from polysulfone membrane to cellulose triacetate dialyzer membranes, hypotension disappeared, and hemodialysis tolerance improved.

Allergic fevers to polysulfone membranes masquerading as infection⁴

Male patient (79 years old) presented with chest pain, light headedness, dyspnea, fever, and chills during and after hemodialysis.

Dyspnea was initially attributed to fluid overload and fever was thought to be due to recurrent pneumonia.

Cultures were negative, while respiratory, abdominal, and cardiovascular findings unremarkable.

Solution:

When switched from a polysulfone to a cellulose triacetate membrane dialyzer, the patient's symptoms resolved.

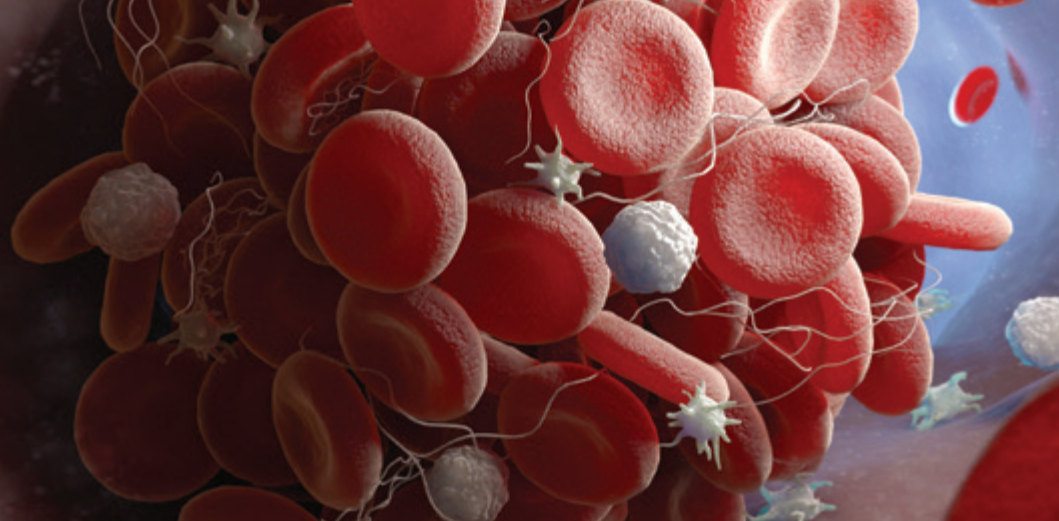
Smooth and biocompatible surface prevents the activation of platelets and immune cells.



"The change to cellulose triacetate continues to be the most appropriate form of treatment."

Martin-Navarro J et al 2019 Kidney and Blood Pressure Research

"Cellulose triacetate membranes appear to be a good alternative for hypersensitive patients."



The solution to reduce or avoid systemic anticoagulation

Alternative methods have some limitations

Saline flushes



SUCCESS RATE
(without heparin)

HDF
Pre-dilution



SUCCESS RATE
(without heparin)

Citrate containing
dialysate



SUCCESS RATE
(without heparin)

Heparin-coated
dialyzer



SUCCESS RATE
(without heparin)

Not applicable. Requires reduced dosage of heparin or heparin-coated dialyzers

Can we use Solacea without heparin?

EXPERTS' OPINIONS

"Whereas both FMC dialyzers (Cordiax800 and FX80) show, as expected, similar residual blood behavior, SOLACEA-19H is by far the best. The polyflux dialyzers had the highest number of clotted fibers."

BioArtProducts Rostock

"In situations in which reduced anticoagulation is indicated, the asymmetric cellulose triacetate (ATA) membrane of SOLACEA dialyzer outperforms a dialyzer with a conventional polysulfone membrane (FX800) or with a heparin-coated polyacrylonitrile membrane (EVODIAL)."

F. Vanommeslaeghe et al. 2019, KIReports.24

"In conclusion, the SOLACEA membrane seems to be ideal in conditions where systemic anticoagulation is prohibited as it outperforms polysulfone membranes under conditions of low systemic anticoagulation."

F. Vanommeslaeghe et al., 2019, CKJ.25

"We consider these results with Solacea are at least equivalent to those we obtained with Evodial. Therefore, Solacea is a good alternative for patients in which no heparin can be used."

Dr. D. Rafael Álvarez Lipe

Head of the Department of Nephrology Hospital Clínico Universitario Lozano Blesa Zaragoza, Spain

Solacea dialyzer: a viable solution for patients at risk of bleeding

- Allows to avoid the use of heparin
- Suited for a variety of hemodialysis protocols
- High performances

SOLACEA- H

HIGH FLUX, ATA™ FIBER DIALYZER

Performance

Clearance (ml/min) ⁽⁵⁾	Qb/ Qd (ml/min)	15H	17H	19H	21H	25H
Urea	200/500	196	197	198	199	199
	300/500	266	274	278	283	289
	400/500	312	323	332	340	352
Creatinine	200/500	191	193	195	198	198
	300/500	251	260	267	273	279
	400/500	289	301	311	320	331
Phosphate	200/500	185	188	190	194	196
	300/500	236	246	254	262	271
	400/500	268	282	293	301	318
Vitamin B12	200/500	150	158	164	169	176
	300/500	178	189	199	208	220
	400/500	193	208	219	230	246

Ultrafiltration Coefficient

KUF [mL/hr/mmHg] ⁶	61	69	72	76	87
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Sieving Coefficient⁷

Vitamin B12	1,00
Inulin	1,00
2-microglobulin	0,85
Myoglobin	0,80
Albumin	0,013

Specifications

Effective surface area (m ²)	1,5	1,7	1,9	2,1	2,5	
Priming volume (ml)	86	98	108	118	139	
Effective length (mm)	227	233	245	254	280	
Inner Diameter (µm)	200	200	200	200	200	
Membrane thickness (µm)	25	25	25	25	25	
Maximum TMP (mmHg)	500	500	500	500	500	
Pressure Drop	Qb/Qd [mL/min]	200/500	200/500	200/500	200/500	200/500
	Blood/Dialysate [mmHg]	51/16	47/18	47/16	45/15	43/8
Material	Membrane	ATA™				
	Housing and Header	Polypropylene				
	Potting compound	Polyurethane				
Sterilization method	Dry gamma					
Package	24 pcs/box					

In vitro testing conditions (ISO 8637)

1. Maduell F, et al. Nefrologia, 2018;38 (2) – 161-168
2. Thibault Dolley-Hitze, et al. poster EDTA congress 3-6/6/2017.
3. Boer WH, et al. Neth J Med. 2017 Jan; 75(1) :4-13
4. Delgado Córdova M, et al. Nefrologia. 2018 May - Jun;38(3):329-330.
5. Clearance: Qf 0mL/min
6. KUF: bovine blood (Hct 32+ 3%, Protein 60g/L, 37°C), Qb 200mL/min
7. SC: Qb 300 mL/min, Qf 60mL/min

Nipro Renal Care is part of Nipro Corporation Japan, a leading global healthcare company established in 1954. With over 33.000 employees worldwide, Nipro serves the Medical Device, Pharmaceutical, and Pharmaceutical Packaging industries.

Nipro Renal Care is a global market leader with over 5 decades providing renal solutions for dialysis and dialysis-related treatment. We specialize in developing dialysis machines, water treatment systems, and a comprehensive portfolio of disposable medical equipment.

In order to address the needs of patients, healthcare professionals, and procurement managers alike, Nipro Renal Care is driven by innovation and patient safety to offer the highest quality products that optimize time, effort, and costs.

BECAUSE EVERY LIFE DESERVES AFFORDABLE CARE



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