

# Gambro nephral st

## SPECIALIZED DIALYZER FOR HIGH BIOCOMPATIBILITY AND ADSORPTION

The Gambro NEPHRAL ST dialyzer features a heparin adsorptive hydrogel membrane for reduced heparin during dialysis. The membrane is designed to provide effective removal of uremic toxins and inflammatory mediators by adsorption.<sup>1</sup>

## HIGH TOXIN REMOVAL CAPABILITIES

- AN 69 ST membrane effectively removes toxins such as  $\beta_2$  microglobulin ( $\beta_2m$ ) and TNF- $\alpha$ , IL-6 and IL-8 cytokines<sup>1,2,3</sup>
- High adsorptive capabilities may improve toxin removal efficiency<sup>1</sup>

## FOCUSED ON PATIENT BIOCOMPATIBILITY

- Different biocompatibility profile, compared to fully synthetic membranes<sup>1,5</sup>
- May be an alternative for patients who have experienced hypersensitivity reactions to conventional membrane types<sup>4</sup>
- When combined with Acetate Free Biofiltration, carries a lower long-term intradialytic hypotension rate and reduces systolic blood pressure by comparison with bicarbonate dialysis<sup>5,a</sup>

## SYSTEMIC HEPARIN REDUCTION CAPABILITIES

- Membrane able to bind heparin to the surface during priming, when used with a pre-heparinized saline solution<sup>1,6</sup>
- Designed to minimize the risks associated with systemic heparinization<sup>6,7</sup>

The Nephral ST Dialyzer is intended for use in hemodialysis (HD), hemodiafiltration (HDF), hemofiltration (HF) and associated models for the treatment of chronic renal failure.



**TYPICAL PATIENT PROFILE: PATIENTS WHO BENEFIT FROM MEMBRANE ADSORPTION CAPABILITIES**



<sup>a</sup> In acetate-free biofiltration modality vs. bicarbonate dialysis modality



# Gambro NEPHRAL ST Dialyzer

CLEARANCE IN VITRO (ml/min) ± 10% QB/QS (ml/min)	NEPHRAL ST 200				NEPHRAL ST 300			NEPHRAL ST 400				NEPHRAL ST 500			
	150	200	300	400	200	300	400	200	300	400	500	200	300	400	500
Q <sub>D</sub> =500 ml/min, Q <sub>UF</sub> =0 ml/min, 37°C															
Urea	141	173	216	241	181	231	261	189	250	287	311	195	265	310	338
Creatinine	131	156	187	205	166	204	226	176	220	246	263	184	237	269	290
Phosphate	118	135	156	168	146	172	187	156	187	205	216	168	207	230	244
Vitamin B <sub>12</sub> (± 20%)	79	85	92	96	96	106	111	111	124	131	136	126	143	153	159

Surface area (m <sup>2</sup> )*	1.05	1.30	1.65	2.15
Blood pressure drop (mmHg) TMP < 50 mmHg Q <sub>B</sub> = 300 ml/min; Q <sub>D</sub> = 500 ml/min	87	76	84	67
Priming volume (ml) ± 10 %; TMP = 100 mmHg	64	81	98	126
UF-coefficient (ml/h x mmHg)*	33	40	50**	65**

### Sieving coefficient\*\*\*

Creatinine	1.00
Vitamin B <sub>12</sub>	1.00
Inulin	0.96
Myoglobin	0.55
Albumin	< 0.01

Weight (g)	160	200	240	255
------------	-----	-----	-----	-----

### Recommendations

Maximum TMP (mmHg)	450	450	450	450
Minimum blood flow rate (ml/min)	150	200	200	200
Recommended ultrafiltration flow rate during priming (l/h)	2	2	2	2
Rinseback (volume of saline solution)(ml)	300	300	400	500

### Materials

AN 69 ST membrane	Acrylonitrile and sodium methallyl sulfonate copolymer
Surface treatment agent	Polyethyleneimine
Housing	Polycarbonate
Potting	Polyurethane
Sterilization agent	Gamma ray sterilization (wet)

\* typical in vitro data : Bovine blood, Hct = 32 %, Pt = 60 g/l, at 37°C, ± 20 %

\*\* QB/QS = 300 ml/min

\*\*\* with plasma (Pt = 60 g/l, QB = 300 ml/min, QUF = 60 ml/min, at 37°C)



Nephral ST is contraindicated in patients presenting with a known allergy to heparin or who have type II thrombocytopenia caused by heparin (HIT Syndrome type II).

For the safe and proper use of the Nephral ST Dialyzers refer to contraindications, warnings and precautions and the complete directions for use.

Baxter Corporation  
7125 Mississauga Road  
Mississauga, ON L5N 0C2

1. Thomas M, et al. *Contrib Nephrol* 2011; 173:119–129.
2. Randoux C, et al. *Kidney Int* 2001; 60:1571–1577.
3. Bouman CS, et al. *Blood Purif* 1998; 16:261–268.
4. Coentrão L, et al. *Nephrol Dial Transplant* 2010; 10.1093.
5. Tessitore, et al. *Blood Purif* 2012; 34:354–363.
6. Chanard J, et al. *Nephrol Dial Transplant* 2008; 23:2003–2009.
7. Kessler M, et al. *Semin Dial* 2015; 28:474–489.

Baxter, Gambro, AN 69, AN 69 ST and Nephral ST are trademarks of Baxter International Inc. or its subsidiaries.