Polyvalence and simplicity for safe treatment

360° purification

The PrismafleX eXeed™ system
Hemoperfusion
Freedom to choose the best-suited blood purification therapy for each patient

Hemoperfusion plays a significant role when it comes to removing toxic drugs or poisons from the blood in emergency situations. This additional treatment is available on the Prismaflex® platform for extended blood purification therapies.

Thanks to a greater extraction ratio for some toxins, hemoperfusion allows clearing these more effectively than by hemodialysis or other filtration methods.

Two kits are available for the performance of hemoperfusion on the Prismaflex machine:

- **Prismaflex Adsorba™ 150 kit**
- **Prismaflex Adsorba™ 300 kit**

Each kit consists of a hemoperfusion set and an activated charcoal adsorption cartridge.
Drug and toxin removal by charcoal hemoperfusion

- During hemoperfusion, large volumes of blood pass through an adsorbent material to remove toxic substances from the blood. The sorbent used is activated charcoal in the form of small granules contained in a cartridge: the Adsorba® C cartridge.

- Molecules are drawn by adsorption to the surface of a sorbent material and kept there.

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Purified blood comes out of the column and is returned to the patient through the blood return line attached to the blood return catheter.

The activated charcoal granules are encapsulated with a biocompatible ‘cellulose’ membrane which protects cellular blood components from direct contact with the charcoal.

As blood perfuses the granular charcoal column, toxic molecules are trapped into the sorbent granules within the column.

The Prismaflex machine blood pump draws the patient’s blood into the cartridge containing activated charcoal granules.

Because time is important, activated charcoal-based hemoperfusion takes advantage of the huge adsorption capacity of activated charcoal. It applies to many cases of severe drug intoxication.

The Gambro hemoperfusion cartridge, Adsorba C, is used when the patient’s physical condition requires immediate removal of toxic substances to maintain life. Toxic substances can easily cross the ‘membrane’ and are adsorbed from the plasma.
High efficiency, patient safety and easy handling

Treatment advantages

The clinical effectiveness of the Adsorba C cartridge has often been demonstrated by the patient recovering consciousness and other vital signs within a few hours (a hemoperfusion treatment normally lasts about 3 hours).

The high adsorption capacity of the Adsorba C cartridge is a result of the use of activated charcoal as sorbent and the specific Gambro production procedure.

High efficiency

- Outstanding adsorption capacity is achieved using 300 g of hemoperfusion-grade activated charcoal.
- As opposed to resins, which mainly adsorb lipophilic compounds, activated charcoal presents a wide adsorption spectrum covering both lipophilic and hydrophilic drugs. Therefore, even if the patient has ingested unknown drugs or drug mixtures, the Adsorba C cartridge may produce optimal results.
- The activated charcoal granules used in the Adsorba C cartridge from Gambro confer low resistance to blood flow and a large adsorption area.
- The 300 g of activated charcoal used in the Adsorba 300 C cartridge provide an outer surface area of 40 m² and an inner surface area of 300,000 m².
- The design of Adsorba C cartridge facilitates optimal access to the granules and ensures thorough inner rheological distribution.

The outstanding effectiveness of the Adsorba C cartridge from Gambro has been demonstrated by many years of clinical use.1 - 19

Safety

With the Prismaflex eXeed system, the user is advised about the necessity of changing the hemoperfusion kit in the event of clotting in the system. Blood pressure drop (difference between inlet and outlet of the hemoperfusion column) is continuously monitored to detect potential clotting in the hemoperfusion column.

Access and return pressures are also constantly monitored by the pressure sensing and measurement system to detect vascular access problems.

Maximum safety controlled by Prismaflex eXeed software.
Easy handling

- To support and ease treatment sessions, Prismaflex eXeed software includes a dedicated hemoperfusion therapy.
- Step-by-step instructions are given online, complemented with comprehensive drawings supporting the user through the different operations.

The Prismaflex eXeed system offers a user-friendly solution for the preparation and delivery of safe hemoperfusion.

Easy to use

- The Adsorba C cartridge is filled with saline and delivered in sterile conditions.
- Following bloodline priming and cartridge rinsing with dextrose solution and heparinized saline, the cartridge is ready for use.

Fast set-up for ease of use in an emergency or intensive care unit.

The Prismaflex Adsorba™ kit (including an Adsorba column and a hemoperfusion set) should be used together with the Prismaflex machine equipped with Prismaflex eXeed software. Comply with the instructions for use stipulated on the package insert and with online instructions provided by the Prismaflex eXeed user interface.
Bibliography

10. F.Turkmen et al.; Early hemodiafiltration and on-line hemodiafiltration therapy in amanita phalloides intoxication; Nephrol Dial Transplant 2006;21 [suppl.4].

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