Collection and retransfusion of drainage blood

HAEM-o-TRANS
System for autologous direct retransfusion

Retransfusion of postoperatively collected drainage blood with low vacuum drain system

- 10 µm micro filter effectively removes micro aggregates and fatty particles
- No risk of disease transmission and wound healing complications due to homologous blood
- Prevention of alloimmunisation

HAEM-o-TRANS combines patients’ and professionals’ needs
HAEM-o-TRANS product information

Benefits for the patient and the staff
- Easy handling
- Fast availability of the retransfusion blood
- Initial suction 70 mmHg, followed by gravity
- System can be re-evacuated. One-way valve within suction bellows prevents retrograde infections by ascending microorganisms.
- Replacement of the blood collection bag or drainage bag only, instead of exchanging the entire system. The bag is fitted with a one-way valve, minimising potential contact with the collected blood during the replacement.
- Economical and ecological

Benefits of low vacuum drainage
- Occlusions by sucked tissue are prevented
- Protection against haemolysis
- Cell residues, blood and secretion are being drained during the entire duration of drainage
- Low amounts of residual blood

Contra-indications
- Infections or malignant tumors around the wound area
- Medicaments around the wound area which should not be applied intravenously
- Cardiac insufficiency > II NYHA
- Renal insufficiency > II
- Hepatocirrhosis
- Sickle cell anaemia
- Coagulopathies

By means of the postoperative autotransfusion system HAEM-o-TRANS wound or drainage blood can be collected and directly given back to the patient without washing during the autologous direct retransfusion. Unwashed shed blood effectively decreases the need for transfusion of allogenic blood and therefore reduces various hazards of homologous transfusions such as disease transmission, alloimmunisation or wound healing complications. The main types of surgery for which this technique is especially useful include e. g. orthopaedic surgery such as hip or knee arthroplasty.

Several studies have shown that quantities of unwashed drainage blood between 200 and 1500 ml do not cause undesired reactions after re-infusion. The risk of disadvantageous consequences like ARDS through infusion of cell detritus, microaggregates or fatty particles can be prevented effectively by applying a 10 µm blood filter during transfusion. Therefore, the use of such a filter is an absolute necessity.

Extrinsic System
- Blood in contact with tissue
- Activated within seconds

Intrinsic System
- Blood in contact with incompatible material
- Activated within minutes

Extrinsic System
- Phrothrombin I
- Fibrinogen I

Intrinsic System
- Intrinsic thromboplastin
- Calcium
- Thrombin
- Fibrin

Extrinsic thromboplastin

Intrinsic thromboplastin

Why drainage blood does not coagulate

Due to tissue injury, factor III is released around the wound area. Within seconds of the blood making contact with the wound tissue, the coagulation cascade is initiated by activation of extrinsic thromboplastin. Hereby fibrin is formed around the wound area. Coagulation then does not take place in the collection bag due to the depleted fibrinogen levels.

Why drainage blood does coagulate if large quantities of blood flow out of the wound within a short period of time

If great blood loss occurs within a short period of time, the extrinsic system will not be activated because wound blood is not sufficiently in contact with the factor III. Therefore, the drainage blood within the bag will not be defibrillated and coagulation may take place. This happens through platelet activation by long-term contact with the incompatible bag material followed by activation of the intrinsic system.
Product description

- Erythrocytes remain fully operable due to a low vacuum system
- One-way valves prevent retrograde infections
- Effective drainage due to low vacuum
- Closed system
- Easy handling
- Common transfusion technique

Ordering information

<table>
<thead>
<tr>
<th>Order No.</th>
<th>Description</th>
<th>Selling unit</th>
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</thead>
<tbody>
<tr>
<td>79.8400.100</td>
<td>HAEM-o-TRANS Unit&lt;br&gt;HAEM-o-TRANS-Set with quadruple connector, HAEM-o-TRANS transfusion system, HAEM-o-TRANS drainage bag 700 ml</td>
<td>20 pcs.</td>
</tr>
<tr>
<td>79.8400.203</td>
<td>HAEM-o-TRANS Set with Y connector&lt;br&gt;Y-drain connector, suction bellows with anti-reflux barrier, HAEM-o-TRANS blood collection bag 700 ml</td>
<td>20 pcs.</td>
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<tr>
<td>79.8400.220</td>
<td>HAEM-o-TRANS Blood collection bag 700 ml&lt;br&gt;175 µm pre-filter, return stop, double sterile packing</td>
<td>20 pcs.</td>
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<tr>
<td>79.8400.230</td>
<td>HAEM-o-TRANS Transfusion Set 10 µm&lt;br&gt;With integrated cascading filter 175 µm, 40 µm and 10 µm, single sterile packing</td>
<td>20 pcs.</td>
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<td>79.8400.270</td>
<td>HAEM-o-TRANS Drainage bag 700 ml&lt;br&gt;Return stop, single sterile packing</td>
<td>20 pcs.</td>
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</tbody>
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Do not hesitate to call us for further information.

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