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HemoClear blood filtration device

Changing the transfusion management paradigm in casualty and disaster management

GO

Gelderland & Overijssel
Gebundelde Innovatiekracht

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Blood loss: A major challenge in Healthcare

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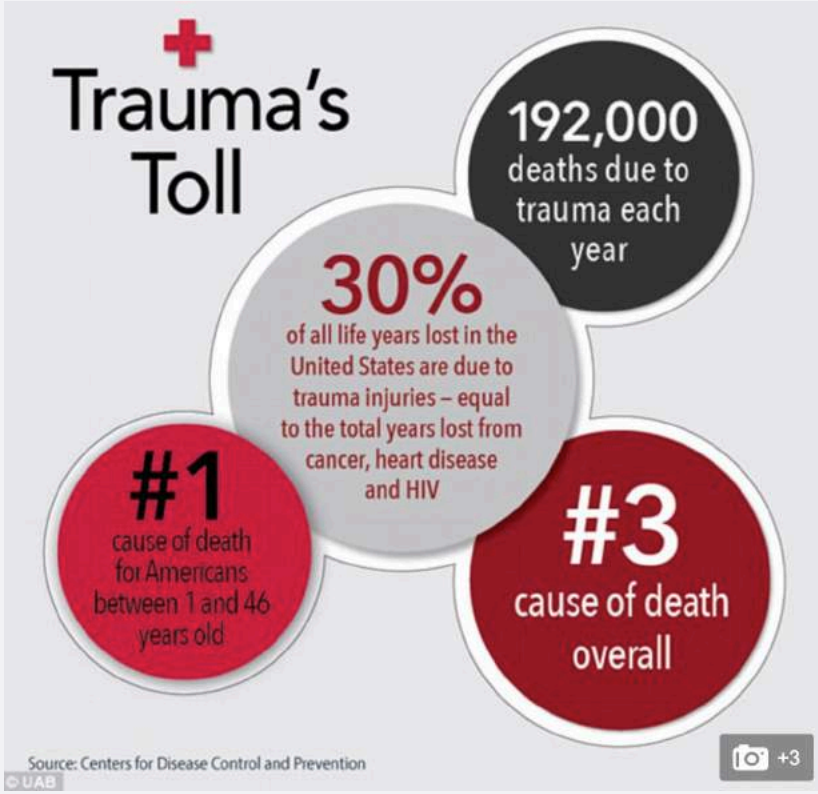
Between 2001 and 2011, more than 80 per cent of preventable US war injury deaths resulted from blood loss.



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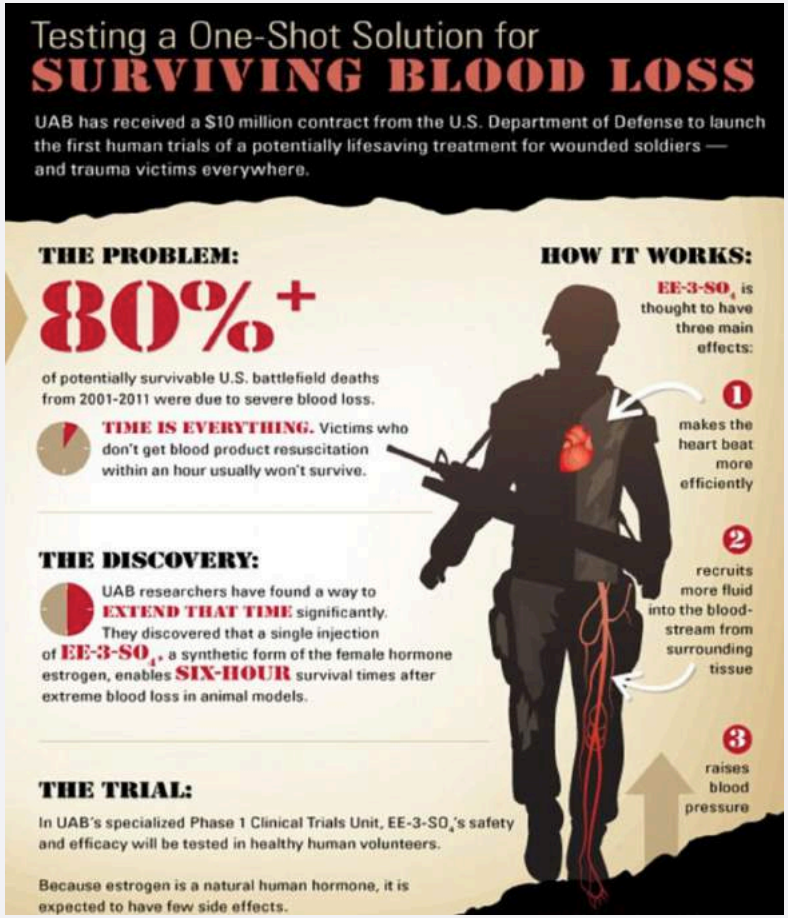
There is a so-called 'golden-hour' that is crucial for getting a transfusion. If a soldier can quickly get donor blood, there chances of survival increases dramatically.

- Casualties
- Trauma
- Disaster management

- Potential on site solutions:
  - Medication
  - Artificial blood
  - Donor blood
  - **Recuperated own blood by Hemoclear**



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Primary stabilization unit

Field hospitals

Hemoclear solution:

On site management due to local collection, rewashing and infusion of lost blood cells

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Traditional model to throw away and replace blood after surgery or trauma

Blood loss leads to low levels of red blood cells (RBC)

Wound fluid with RBC is disposed as chemical waist

Buy from blood bank allogeneic (donor) RBC units

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Blood Transfusion: Major challenge in casualty management

- Supply
- Costs
- Availability
- Side effects

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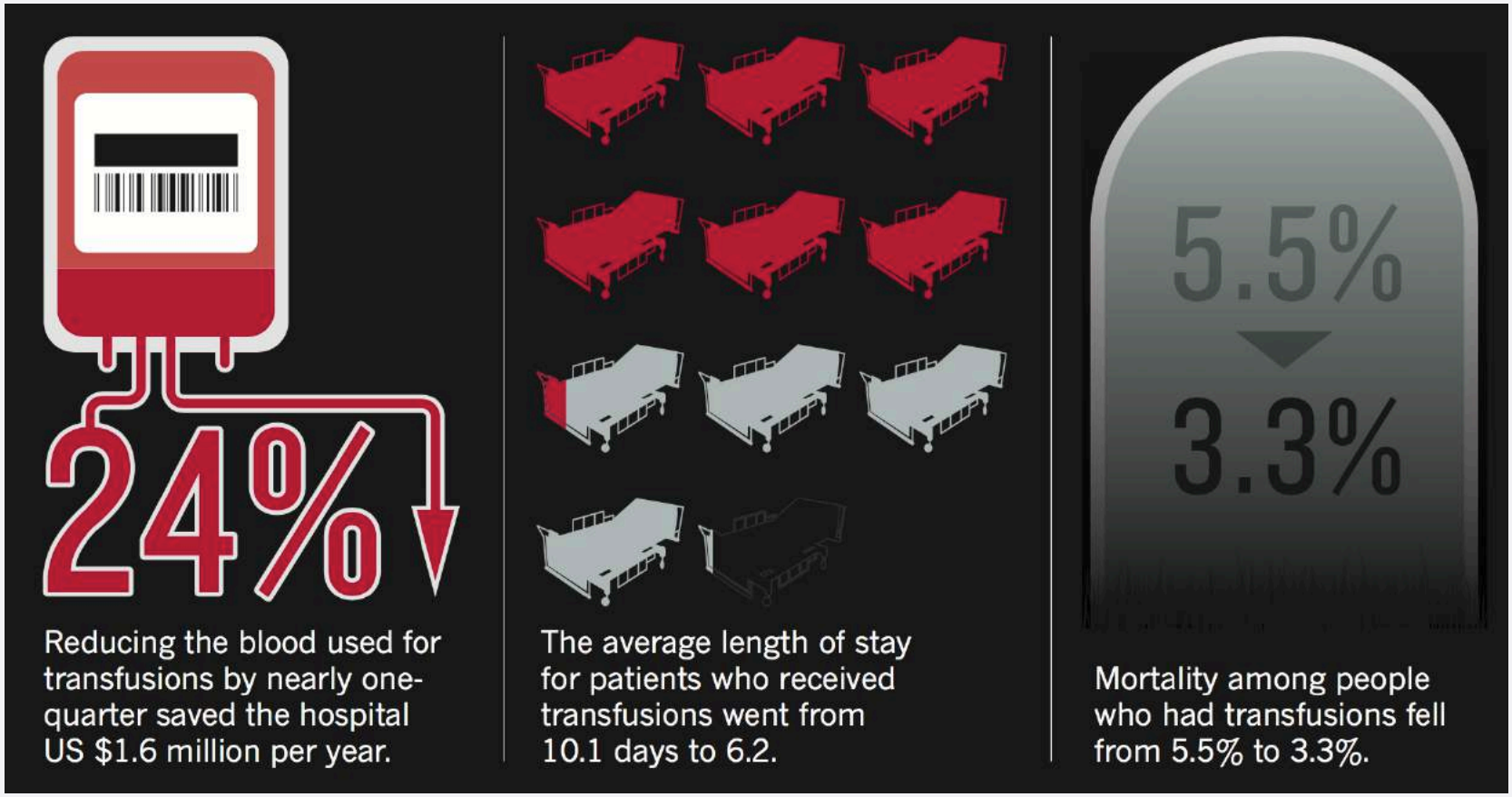
Typically, blood transfusions are grossly overused

Evidence-based medicine: Save blood, save lives, NATURE 2015



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Retaining Red Blood cells by complex Cell Savers: mission impossible in casualty management

- Complex
- Costs
- Availability
- Skilled people

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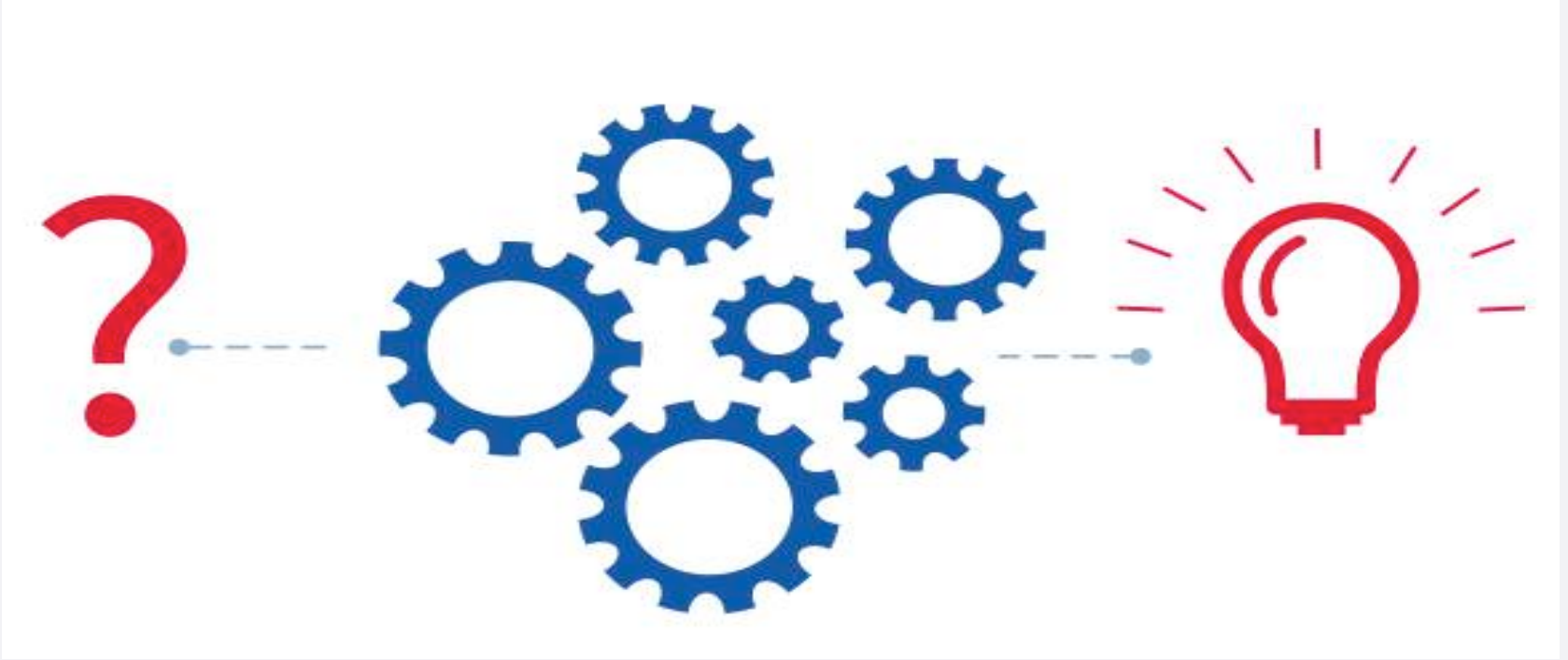

Solution:

Hemoclear retains own bloodcells from lost blood

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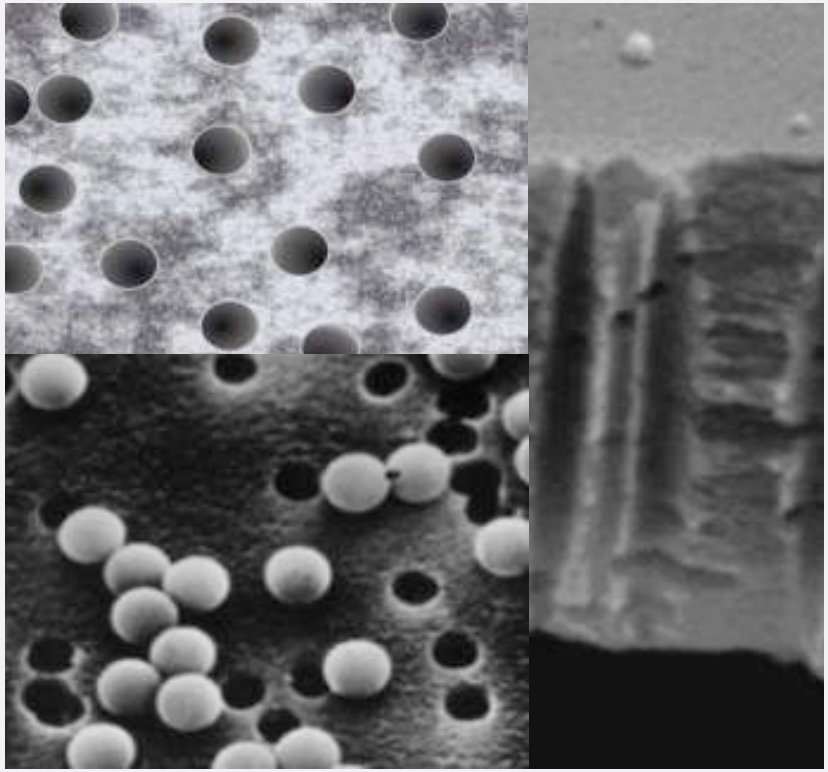
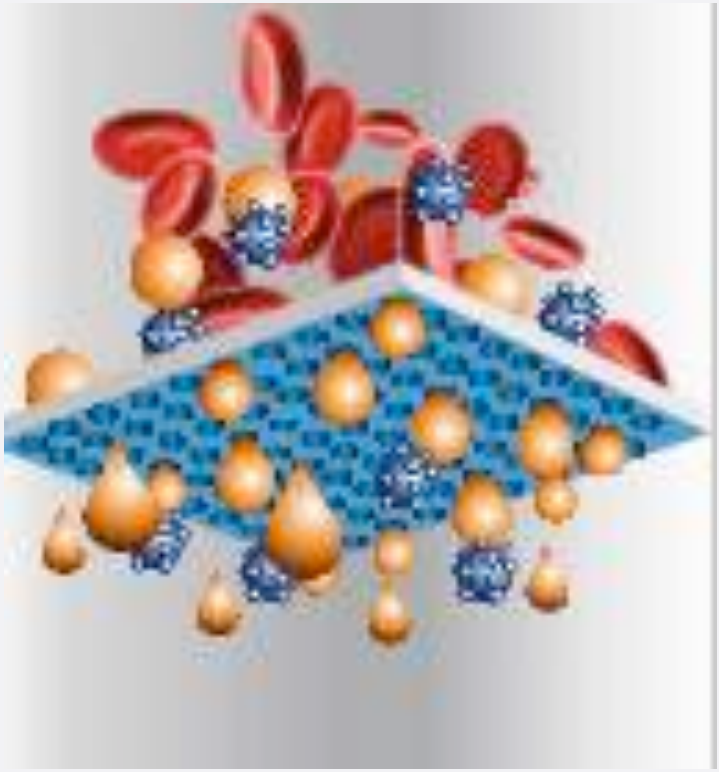
Complex Technology results in easy to use device by gravity force only

Nanotechnology based microfiltration



Cartridge based disposable device



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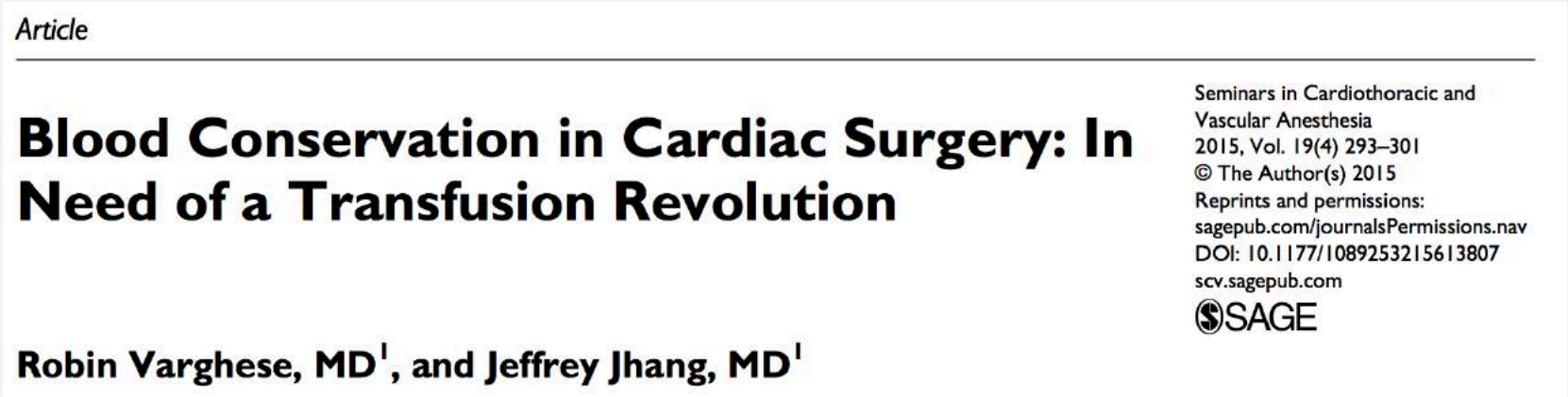
Hemoclear: Western World
Focus on cardiac surgery



Article

Blood Conservation in Cardiac Surgery: In Need of a Transfusion Revolution

Robin Varghese, MD[1], and Jeffrey Jhang, MD[1]

Seminars in Cardiothoracic and Vascular Anesthesia
2015, Vol. 19(4) 293–301
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DOI: 10.1177/1089253215613807
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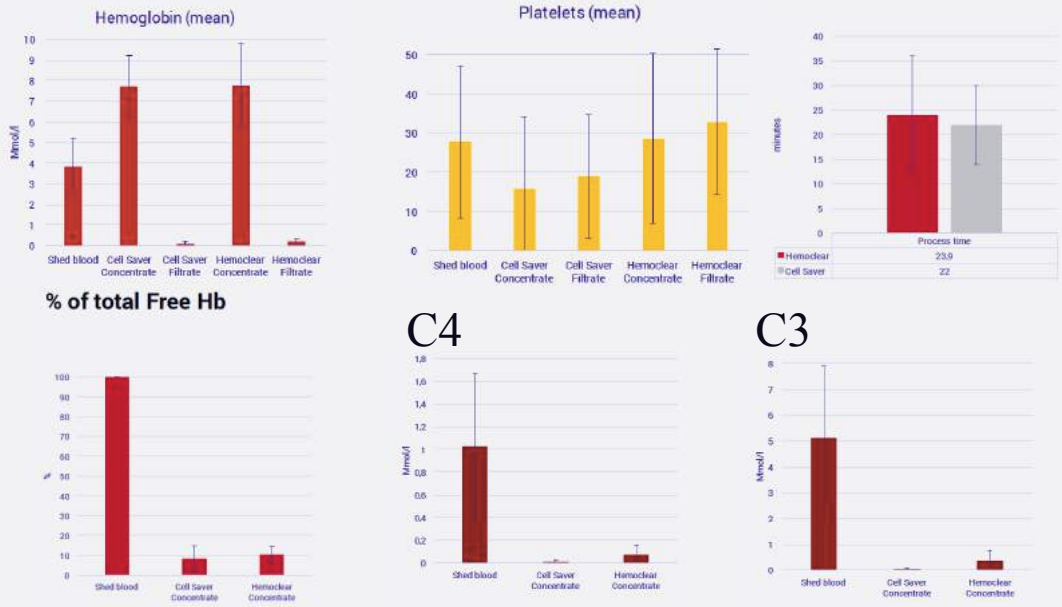
- **Blood transfusion** is the **most common procedure** in cardiac surgery.
- Increasing evidence exists that **excess transfusions are harmful to patients.**
- Transfusion reactions and complications, including infection, immune modulation, and lung injury, **are known complications but underreported**

HemoClear: Comparable to Cell Saver Gold Standard

In-vitro comparison HemoClear vs. Cell Saver

Best to be increased

Best to be reduced



Shows strong results

Comparable results for beneficial blood components

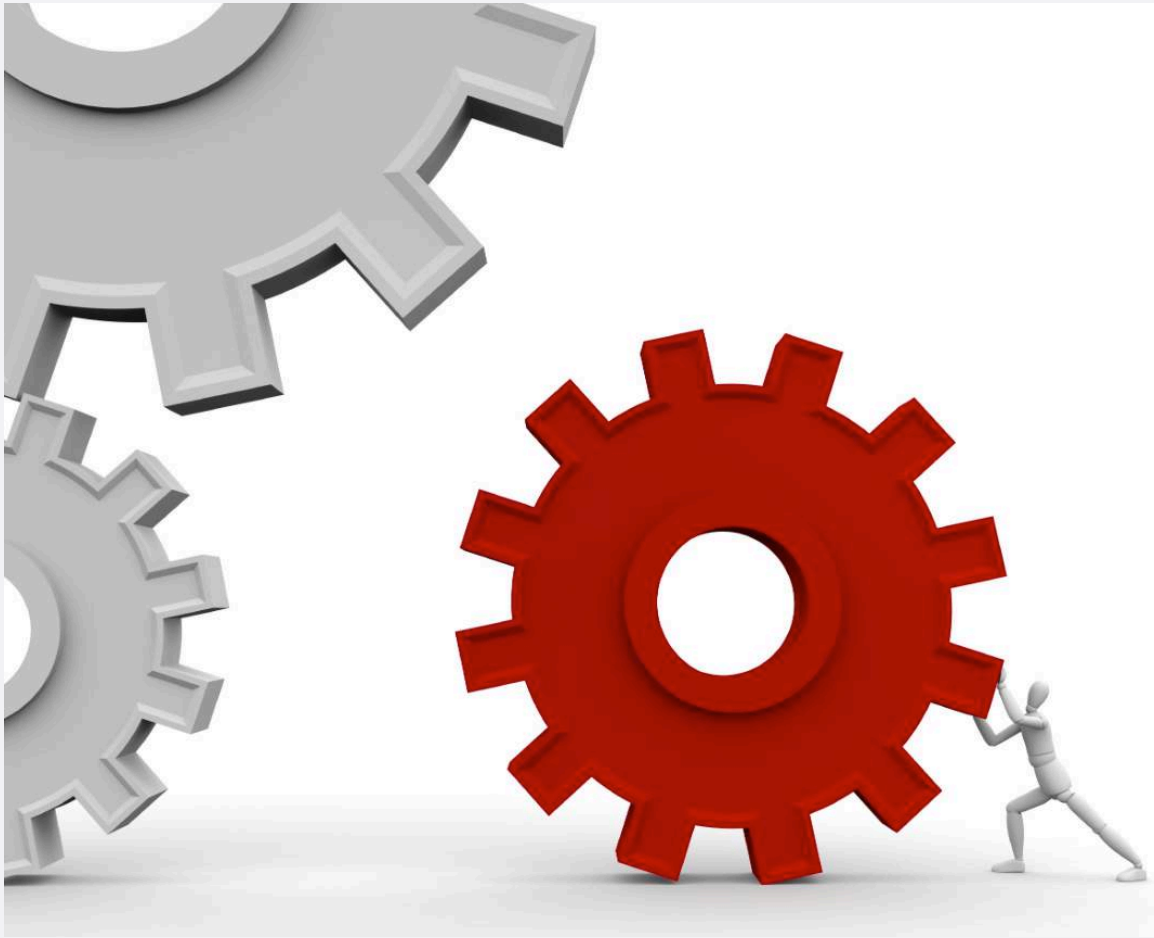
- Hb/red blood cells
- Platelets

Comparable results in eliminating unwanted components

- Total Load of Free Hb
- Complement 3 & 4
- Potassium

How does it Work ?

- Simple
- Gravity only
- Anywhere
- Disposable



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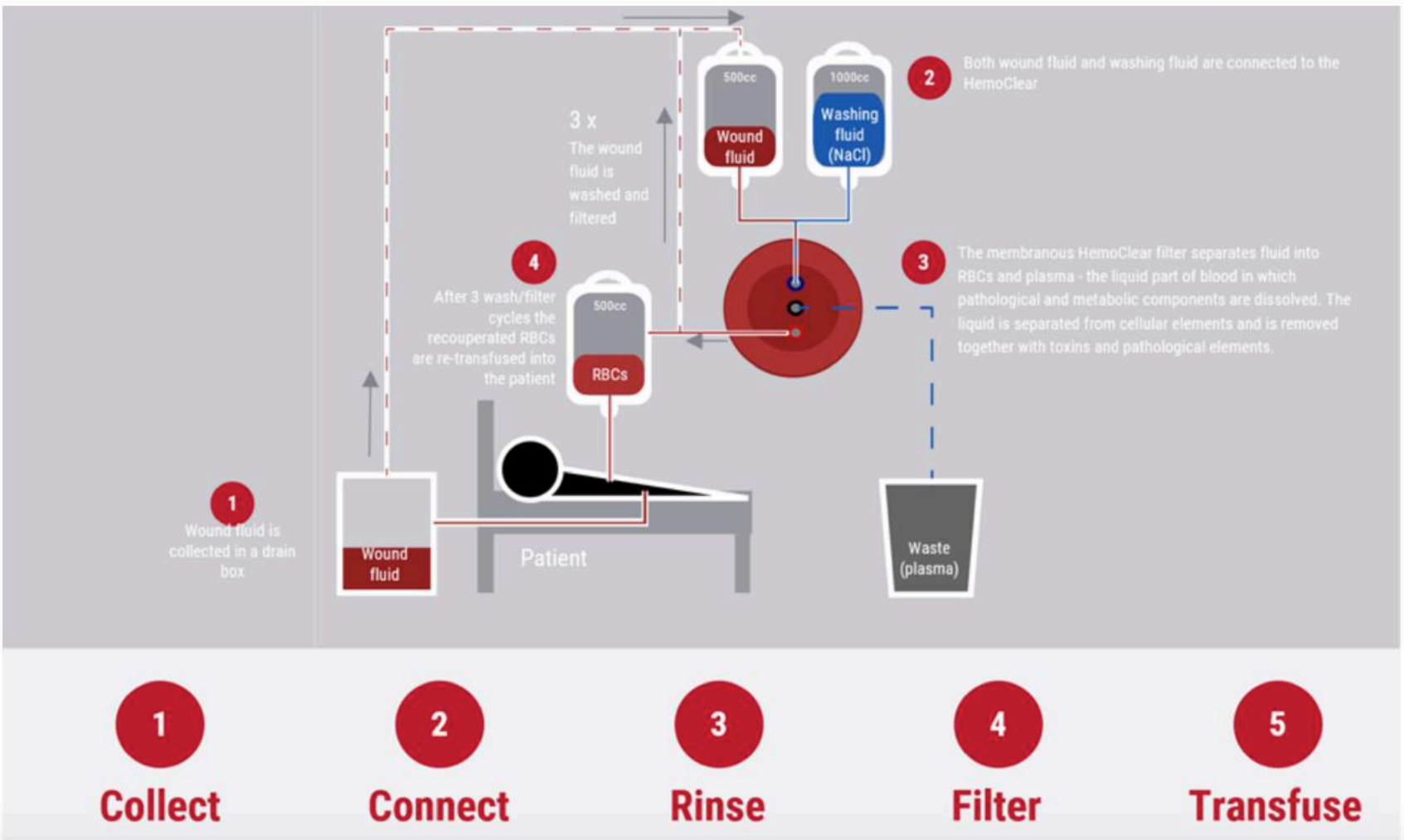
How does it Work ?



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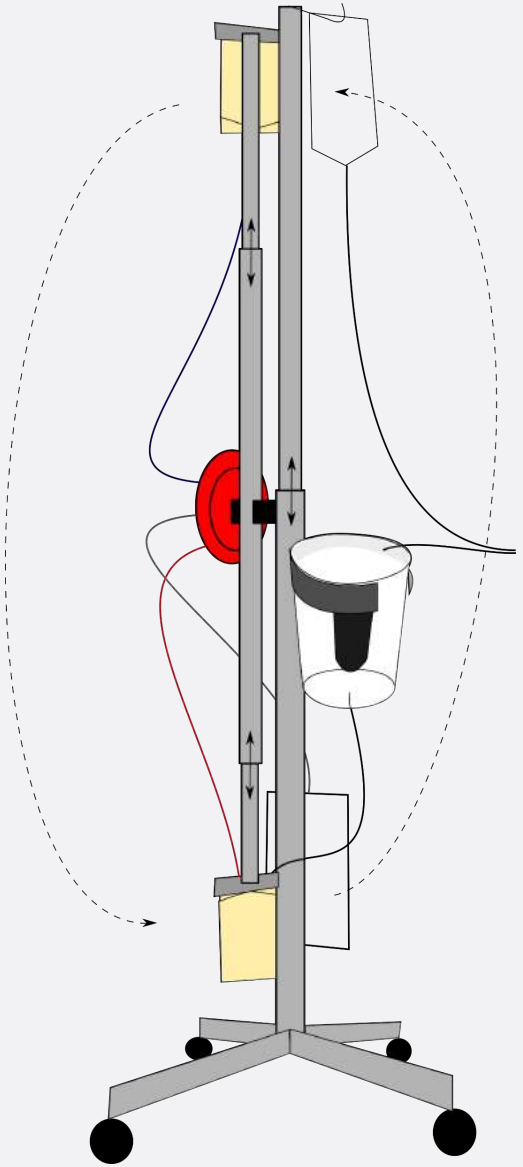
www.Hemoclear.com

Lost blood → Waste → Retained washed RBC's



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Hemoclear could have major implications for treating trauma, from battlefield injuries to life threatening hemorrhage following any injury on site.

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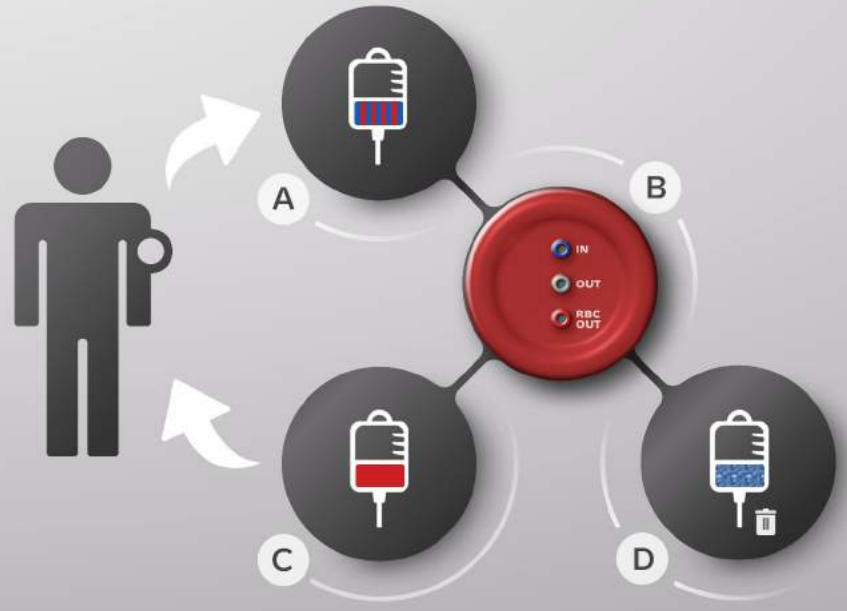
HemoClear changing the paradigm for transfusion



01 Patient benefit

Appeals as a “waste not” product and delivers a clear treatment benefit to patients

02 Ease of use

Disposable device based on gravity, simple process with no need for training

03 Financially attractive

Delivers a clear cost advantage to the hospital, compared to transfusion

HemoClear

Thank you.