

WOUNDCLOT - MODE OF OPERATION

The WoundClot Hemostatic device is a NON OXIDIZED regenerated cellulose polymer, designed to effect bleeding vessels and treatment methods by using several methods:

1. By absorbing massive amounts of blood (more than 2,500 times its own weight) into a Hemo-Dynamic Gel environment, allowing natural dynamic coagulation formation, in a contained and focused area.
2. With engineered Molecular functional groups designed to speed the natural coagulation of blood contained in the Hemo Dynamic gel.
 - a. Effective in coagulopathy patients and in high-pressure massive bleeding vessels.
3. Which form new Inter Molecular Forces, designed to control the gel's dissolvent to fit different bleeding scenarios, from severe arterial bleeding to minor bleeding and oozing.
4. Creating high levels of adherence, allowing for non-compression bleeding control in severe bleeding scenarios including fully transected arteries and vessels and non-compressional injuries, including internal organs and non-tourniquet able traumas.

4.1 The unique level of adherence is caused by mechanisms created in multiple aspects in the manufacturing process in accordance to the formula design.

4.2 Physical behaviors:

Swelling of the fabric – WoundClot absorbs many times more than competitors (up to 2,500 times its own weight) due to its stability which keeps molecular chains whole (the initial length of the fibers in the raw materials) and the inter molecular forces introduced in the manufacturing process.

These characteristics create high capillary forces between the fabric and the wound, therefore increasing the adherence.

4.3 Contraction – the stronger the swelling process, high levels of contraction of the fabric, latching to the skin at the place of contact.

4.4 Physiology– both the gel environment and the wound environment are highly active due to the nature of the human biology and the unique process created in the dissolution of WoundClot molecular functional groups. It is designed to mimic the human physiology bringing the two environments together using the same forces combined.

4.5 Platelet plug and absorption:

The natural coagulation mechanism starts by a critical mass of platelets connecting to the wound surface. This is called platelet plug. Wound Clot's unique ability to absorb these platelets while allowing them to interact (what we call Hemo Dynamic

environment) and maintain this state of matter for a much longer time while then competitors, (see dissolution tables) causing the formation of a platelet plugs in greater numbers and on the wound surface and gel together, creating a large platelet plug connecting the two environment biologically and mechanically.

4.6 Cross linked fibrin clot –

4.7 The last stage of this adherence process is of a more permanent nature. When a cross-linked fibrin clot is formed due to the natural coagulation processes in the body, it forms both in the wound and the gel on it. Sealing them together.

5 WoundClot Applications:

5.1 WoundClot Hemo-Dynamic gel's formation and integrity is controlled in the manufacturing process allowing to design the end product to fit different types of wounds and applications such as: Cavities, surface wounds, cuts and lacerations, abrasions, high impact traumas, blast wounds and full amputation injuries. These unique abilities open treatment possibilities for unique applications and procedures a few of them being:

*Lungs hemostasis preventing bleeding and also air and bubbles exiting the wound.

*Treating a retained placenta or PPH (primary post partum hemorrhage) placing WC flat in the cervix on the hemorrhage and allowing it to self adhere to the damaged vessels. The product will activate on every open blood vessel and stop the bleeding.

*Post Cardiac Catheterization treatment sealing the artery or vein after the removal of the catheter. This is possible because of the surgical approval for severe bleeding of the product and non-compression application requirements.

*Treating Nephrology patients after the removal of the needle, speeding dramatically the time to coagulation. This treatment is difficult as there is a very small cavity, leaving hardly any adherence area, combined with high-pressure blood vessels.

*Entered through endoscope, laparoscopes and other invasive devices to stop hemorrhage during procedures. Due to WoundClot stability and its design to adhere to tissue and vessels, it has reduced adherence to plastic and metal forms, allowing it to fit and applied through tubes.