

mr dh® Controls Severe Bleeding When Seconds Count

In emergency situations, **mr dh**® can control severe bleeding in minutes.¹ **mr dh** has proven to be efficacious for control of both venous and arterial hemorrhage, including patients suffering a coagulopathy.² In a prospective observational trial of clinically coagulopathic patients with severe visceral injuries, **mr dh** facilitated the cessation of bleeding in 90% within 5 minutes.¹

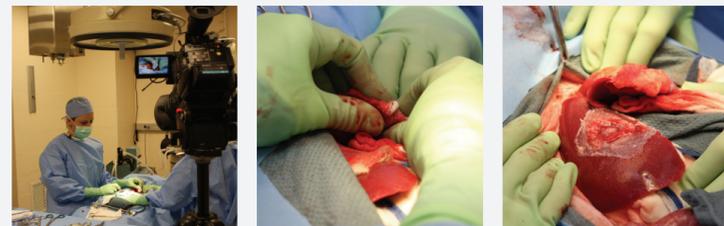
Rapid Control of Hemorrhage During Surgery

In cases of critical hemorrhaging, **mr dh** has proven effective for the control of severe bleeding in a variety of surgical situations. **mr dh** can be used for:

- Traumatic injuries
- Operative and postoperative surgical wounds
- Organ lacerations
- Transplants and donor sites
- Arterial and venous injuries

Easy to Use When Seconds Count

- No prep time
- No pre-mixing of reagents
- No special storage conditions
- No exothermic reaction



mr dh accelerates clot formation

mr dh® Ordering Information

Item #	Quantity	Description
400-14	• 1 Box of 3	mr dh Bandage 10cm x 10cm (4in x 4in)
400-25	• 1 Box of 3	mr dh Bandage 5cm x 5cm (2in x 2in)

Order Fax: 877.270.8500
Order Telephone: 888.666.2560

About Marine Polymer Technologies, Inc.

mr dh® is manufactured by Marine Polymer Technologies, Inc., an innovative medical device company focused on the development and delivery of biomaterials for the medical field. Since 1992, we have introduced a variety of groundbreaking products in the areas of hemostasis and wound healing to support healthcare providers and their patients. Our revolutionary products are based on the isolation, characterization and formulation of our novel and proprietary polysaccharide polymer (pGlcNAc). We are committed to the highest quality standards that meet both our customers' expectations and regulatory requirements. Marine Polymer Technologies, Inc. complies with FDA QS 820 regulations, the EC Directive 93/42/EEC and is ISO 13485 certified.

Visit www.mrdhbandage.com or call 1.888.666.2560 to learn more about **mr dh**'s effectiveness.

mr dh®

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¹ King D, Cohn S, Proctor K, et al. *J Trauma*. 2004 Oct; 57:756-759.

² Valeri C, Vournakis J. *J Trauma*. 2011;71:S162-S166.

³ Fischer TH, Thatte HS, Nichols TC, et al. *Biomaterials*. 2005;26:5433-5443

⁴ Scanning Electron Micrograph courtesy of Thomas H. Fischer, PhD. Dept. of Pathology and Laboratory Medicine. University of North Carolina, Chapel Hill, NC.

⁵ Salerno T, Gaughan C, Suarez M, et al. *J Card Surg*. 2009; 24:722-724

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Indications for Use
mr dh® is a trauma dressing intended for the temporary control of severely bleeding wounds such as surgical wounds (operative, postoperative, donor sites, dermatological, etc.) and traumatic injuries.

Safety Information
PRECAUTIONS: There are no known contraindications to the use of **mr dh**®.

CAUTION: Federal (USA) law restricts this device to sale by or on the order of a physician or other licensed practitioner.

mr dh®

Fast, Effective Control of Severe Bleeding



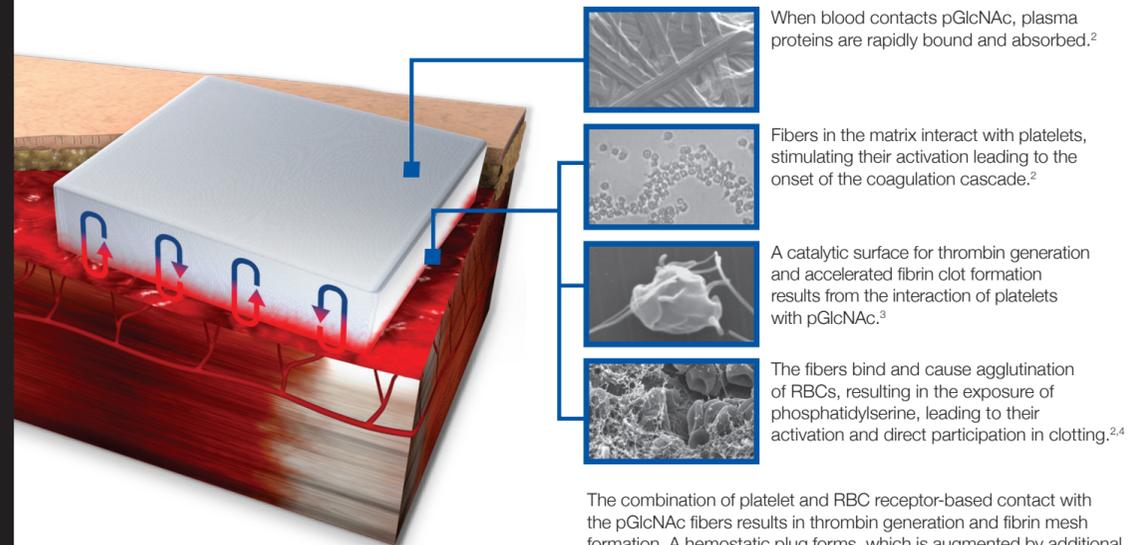
pGlcNAc Fibers Control Bleeding When Conventional Therapies Fail

mr dh® has a unique, multifactorial mechanism of action which is responsible for its observed efficacy.² In a prospective, observational clinical study, **mr dh** terminated bleeding in 90% of patients with hepatic injuries who had failed all available methods of hemostasis (including two cases in which Recombinant activated Factor VII was administered without effect).^{1,2}

mr dh contains no proteins or blood products, is non-immunogenic and has no known contraindications.

mr dh® Can Control Severe Bleeding Within Minutes¹

The unique structure, dimensions and physicochemical properties are the keys to the efficacy of **mr dh**.²



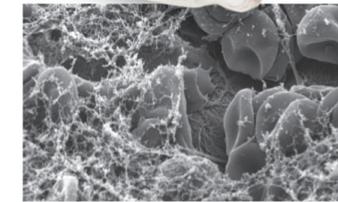
The combination of platelet and RBC receptor-based contact with the pGlcNAc fibers results in thrombin generation and fibrin mesh formation. A hemostatic plug forms, which is augmented by additional vasoconstrictive effects due to the release of both thromboxane by activated platelets and endothelin-1 by endothelial cells.²



Easy to Apply in Critical Situations

mr dh is used for the temporary control of severely bleeding wounds such as operative and postoperative surgical wounds, donor sites, dermatological procedures and traumatic injuries, including combat situations. It is easy to use and apply and offers these advantages:

- No prep time
- No pre-mixing of reagents
- No special storage conditions
- No exothermic reaction
- Clings to wet surfaces



Accelerated clot formation

mr dh is packaged in a convenient blister pack and can be stored at room temperature for up to 3 years.

Fast and Simple Steps for Use



1 Open blister pack onto sterile field

2 Place **mr dh** on open wound, with active side toward wound surface

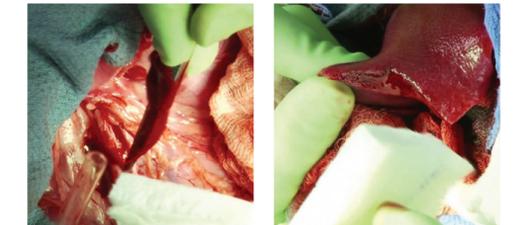
3 If the dressing is completely soaked through, apply another dressing over the first and continue pressure

4 To remove, soak **mr dh** with sterile saline and gently peel away

mr dh® Controls Hemorrhage During Surgery

mr dh® can be used for a variety of surgical procedures including:

- Aortic and valve transection
- Liver and spleen laceration
- Transplants
- Kidney transection
- Colon resection
- Oozing material
- Tissue degradation
- Back side bleeds
- Aneurysms
- Axillary node dissection
- Reconstruction of an appendage
- Lung injury



Take Control of Troublesome Bleeding

Case Study: In an acute type A dissection, **mr dh** successfully controlled hemorrhage when suturing and other maneuvers failed.⁵

- Upon aortic declamping, troublesome bleeding occurred in the posterior suture line
- Prolonged hand pressure and clotting factors were used, including factor VII, which failed to control hemorrhage
- **mr dh** was applied to the area with hand pressure
- The patient's chest was left open for 48 hours
- **mr dh** was removed with total control of bleeding
- Patient recovered uneventfully

“ In our patient there is no doubt that **mr dh**® was effective in controlling bleeding, which had not responded to conventional measures.”

— Journal of Cardiac Surgery, November 2009