

ADVANCED WOUND CARE PRODUCTS



COMFORT IS EASY

Wound Healer Powder



Introducing AsaPharma wound healer powder

AsaPharma wound healer powder is designed and produced on the basis of the latest medical achievements, scientific and practical principles and the use of the most effective biologically active natural biopolymers in the product formulation, which has had tremendous results in the healing of various types of acute and chronic wounds.

Open wounds and cavities usually get infected quickly due to the destruction of the lower layers of the skin, and microbes can quickly enter the deeper layers of the skin and spread, as well as enter the lymph nodes and spread throughout the body. Therefore, the treatment management of a tunnel wound is much more important than superficial wounds. Usually, cavity wounds have a tendency to close, and this may cause an infection in the closed space. Therefore, before closing the wound, it must be repaired and treated by removing excess secretions. The granular structure of the AsaPharma wound healer powder product is used as a primary dressing by filling the cavity wounds that are difficult to access, from the beginning to the end of the wound healing stages. And with advanced performance in absorbing exudate due to the presence of a combination with absorbent nature, it prevents the creation or development of infection. After the debridement process (autolytic or sharp), the organic active ingredients in the AsaPharma wound healer powder have the ability to create ligands with metal ions and inhibit them from the wound environment, inactivating the MMP enzyme (a key factor in preventing collagen formation and healing chronic wounds), and directly accelerates the growth and division of fibroblast cells and as a result lead to an increase in the formation of granular and epithelial tissue and increases collagen production in the direction of wound healing.

How is it important to create a Gel structure in the wound cavity?

Closure of tunnel or cavity wounds leads to the creation of an anaerobic and favorable environment for the growth and development of microorganisms. AsaPharma wound healer powder acts like a barrier by absorbing secretions and turning into a gel structure by causing swelling and increasing the volume in the wound cavity, which, in addition to preventing the entry and penetration of microbial agents, helps to prevent the wound surface from closing.

The presence of gel dressing in the wound cavity helps to speed up the healing process by creating moisture and preventing the formation of necrotic dry tissues.

By increasing the volume of powder with gel structure, this product as a primary dressing completely covers the wound bed so that no area of the wound surface is left without dressing. The creation of a gel mass causes the dressing not to stick to the wound bed and to be removed easily, as a result, it does not cause any damage to the granule tissue that is being repaired, and the patient will experience a painless and injury-free dressing change.

Mechanism of effect of AsaPharma wound healer powder

The mechanism of effect of AsaPharma wound healer powder starts with controlling wound inflammation and infection, controlling the amount of exudate and excess wound secretions, which is one of the principles of preparing the wound bed, and continues with the function of autolytic debridement, creating an antibacterial environment, accelerating collagen formation and increasing granulation, it leads to complete wound healing. In particular, AsaPharma dressing powder activates the wound and increases the speed of wound healing with the least amount of scar tissue with four approaches:

- 1) Changing the dressing from powder to gel at the wound site and absorbing the exudate.
- 2) Acceleration of the inflammatory phase as the first stage of wound healing with the activation of autolytic debridement and the accumulation of immune cells and factors effective in wound healing to stimulate the formation of granulation tissue.
- 3) 70% reduction in the duration of treatment by maintaining optimum moisture and keeping the wound area hydrated and preventing the formation of old and necrotic tissue.
- 4) Antiseptic function and creating an antibacterial coating on the wound and accelerating wound healing by preventing infection.

Benefits and uses of AsaPharma wound healing powder

- Ideal for treating all types of acute and chronic exudative wounds
- Effective for treating all types of diabetic wounds and bedsores
- Ability to manage the treatment of skin graft donor and recipient wounds
- Suitable for repairing superficial and deep 1st and 2nd degree burn wounds
- Can be used alone for granulated and epithelized wounds
- Preventing the drying of the bed of deep wounds and cavities with difficult access
- Reducing the risk of wetting the marginal edges around exuding wounds
- Removal of exudate in wounds with a medium to relatively severe level of infection
- Suitable for cleaning the wound bed from the old tissue
- Prevention of infection in vulnerable wounds
- Suitable for around orthopedic pins and ostomy equipment

How to use

Preferably, in open and fresh wounds, the wound site should first be cleaned of blood clots using Asapharma wound disinfectant solution. Pour Asapharma wound healing powder directly on the wound. It should be noted that due to swelling of the dressing due to the gel structure of the product, the wound cavity should not be completely filled. Cover the wound with a simple secondary dressing. Change the dressing after 24 to 48 hours. In wounds with old and necrotic tissues, in order to speed up the wound healing process and get better results, debridement of dead tissues should be done by the therapist before using Asapharma wound healing powder. In very dry wounds, before using the product, hydrate the wound bed with Asapharma wound cleansing solution to facilitate the change of powder to gel nature.

Wound Irrigation and Antiseptic Solution Biofilm Remover



Introduction

The biggest problems and concerns in wound healing are the accumulation of various microorganisms and infection at the wound site. Therefore, the first step in wound care and treatment is to clean the wound. Paying attention to the potential properties of EDTA for the first time among the multitude of similar wound healing products is the special feature of AsaPharma's cleaning, disinfecting and wound biofilm removal product, which leads to the achievement of a unique and distinctive formulation, and specifically to an ideal choice. It is used to disinfect all kinds of wounds.

Effect mechanism

Ethylenediaminetetraacetic acid (EDTA) present in this product inhibits the MMP enzyme by absorbing Zn^{2+} ions from the wound bed to create a suitable environment for wound healing and accelerate the wound healing process.

It has been found that the potency of silver as an antimicrobial agent is related to the amount and rate of release of free silver to the wound bed. The use of two effective substances, EDTA and silver, is important from both biological (increasing antibacterial and anti-biofilm properties) and chemical aspects (covering EDTA particles on the surface of silver particles and creating slower kinetics in silver release). The slow release of silver effectively leads to a long-term effect of antibacterial properties in the wound.

How does AsaPharma's cleaning, disinfecting and wound biofilm removal solution help speed up wound healing?

Increasing the oxygen requirement of the wound surface

By creating sluff tissue on the surface of the wound and reducing oxygen, the conditions for the growth and proliferation of anaerobic bacteria are provided and it leads the wound to become infected. AsaPharma wound irrigation and antiseptic solution-biofilm remover with effective performance in destroying the sluff tissues and biofilm, creates a proper cleaning on the wound surface and increases oxygen supply.



Properties Effective material	No toxic effect on fibroblasts	Anti biofilm	Autolytic debridement agent	No systemic absorption	Effective on fungus, virus spore	Effective on gram + and - bacteria	Anti septic	No microbial resistance
Normal saline	✓	×	×	×	×	×	×	×
Chlorhexidine gluconate	×	×	×	×	×	✓	✓	×
Savlon	×	×	✓	✓	×	✓	✓	×
Hydrogen peroxide	×	×	×	✓	×	×	×	×
Acetic acid	×	×	×	×	×	✓	×	×
Povidone-iodine	×	✓	×	×	✓	✓	✓	✓
Sodium hypochlorite	×	×	×	×	×	✓	✓	×
Silver	×	✓	✓	×	✓	✓	✓	×
Polyhexanide	✓	✓	✓	✓	✓	✓	✓	✓
Silver + EDTA	✓	✓	✓	✓	✓	✓	✓	✓

Increasing the effectiveness of white blood cells and fibroblasts

Short chain fatty acids produced by anaerobic bacteria, as well as causing necrosis on the wound surface, lead to inactivation of white blood cells. By cleaning the wound, this product helps to increase the efficiency of white blood cells and naturally increases the growth rate and mitosis of fibroblasts.

Reduction of infection and unpleasant odor caused by it

A number of microorganisms are present on the surface of all wounds, and no wound is free from microorganisms. Failure to properly and timely clean the wound provides the opportunity and suitable conditions for the growth and spread of microbial agents. In larger wounds, the infection spreads through the lymphatic system or blood vessels in the body and leads to sepsis. This product prevents the spread of infection in infected wounds.

Reduction of treatment duration and related costs

The wound healing process continues optimally when the amount of wound secretions is in balance. Too little or too much exudate can delay the wound healing process, spread infection, and cause pain and discomfort to the patient. Also, the presence of dead tissue on the surface of the wound causes an incorrect assessment of the depth of the wound, which can lead to choosing the wrong treatment. AsaPharma solution speeds up the treatment process with its antibacterial and antibiofilm properties.

Reducing the need for Antibiotics

The presence of biofilm, which is a resistant type of microorganisms, makes the treatment of wounds and infections more difficult because, on the one hand, in chronic wounds, there is no proper oxygen and blood supply to the tissue, and as a result, antibiotics reach the wound area with a lower concentration, and on the other hand, many antibiotics do not have the ability to penetrate the biofilm. EDTA present in the formulation of this product, as the strongest potential agent and destroyer of biofilm, helps to reduce the consumption of antibiotics. Also, the presence of silver in the wet wound environment can increase the rate of re-epithelialization as well as the wound healing rate compared to common antibiotics.

Fast and long-lasting Antibacterial effect

With two special antibacterial agents, this product doubles the speed of destroying microorganisms on the surface of the wound. The presence of EDTA in the composition of this product and the coating of silver particles by it brings the slow release of silver particles, so a long-term antibacterial effect will be created at the wound site.

Wound Hemostatic Powder



Stop the bleeding, save the life

Severe bleeding and late arrival of the injured to the medical centers are the highest factors in increasing the mortality of the injured. Stopping the bleeding as soon as possible and preventing long-term bleeding can save the injured person's life.

In this situation, it is a priority to use hemostatics that do not cause any damage to the wound site in addition to providing an effective function in bleeding. AsaPharma wound hemostatic powder product is designed with a focus on creating advantages such as shorter coagulation time, no allergic sensitivities, compatible with the body's physiology, no heat generation at the place of use, no need to change dressings in closed wounds and the ability to be used in all types of bleeding. This product is suitable for all types of arterial, venous and capillary bleeding, and according to the type and extent of bleeding, it stops bleeding within 30 seconds.

The use of the third-generation formulation of hemostatics with absorbable characteristics and not causing pain and heat at the site of use

How AsaPharma hemostatic powder works?

The granules of the product are in the form of components with a high contact surface and positive charge, and when they come into contact with the blood, the granules attract red blood cells that have a negative charge. In addition, the granules swell and become a gel and stop the bleeding by creating a mass similar to a blood clot and creating a physical barrier.

Gelation and adhesion to blood cells forms a chelating structure that acts like a net on the surface of the wound and traps red blood cells and platelets, creating a clot and stopping bleeding. This product does not affect the natural coagulation cascade, but only leads to blood clots that come into contact with the granules. According to the physical action, this product affects hypothermic blood and blood containing heparin.

Product applications

- All cardiovascular, graft, orthopedic and laparoscopy surgeries
- No effect on blood glucose levels, suitable for diabetics
- Can be used for patients taking anticoagulants
- Stopping capillary, venous and arterial bleeding
- Suitable for all patients with coagulation problems
- Emergency cases until taking the patient to the hospital
- Significant reduction in bleeding time after dialysis
- Prevention of adhesions after surgery
- War injuries and gunshot wounds
- Hemostasis of the angiographic site
- Cuts and scratches
- Soft tissue surgeries
- After sharp debridement
- Trauma and damages caused by injury

Special properties of AsaPharma wound hemostatic powder

1) Fast action: When in contact with blood, AsaPharma's hemostatic agents absorb the blood serum and swells and stops the bleeding by creating a mass similar to a blood clot and creating a physical barrier. The granular structure of this product provides a wide surface for absorbing blood serum. Thus, it increases the speed and strength of dressing performance.

2) Non-dependent blood coagulation pathways: The mechanism of effect of this product is completely independent of the natural blood coagulation pathways and works by creating a physical barrier, so it can be used in patients taking anticoagulant drugs.

3) Biocompatibility and non-sensitivity: The structures used in AsaPharma's hemostatic powder are biocompatible biopolymers and do not cause any sensitivity at the bleeding site.

4) No pain and heat at the bleeding site: unlike other dressings used in bleeding, the mechanism of this product is not heat-generating and does not cause any damage to the tissue of the bleeding site or the surrounding tissue.

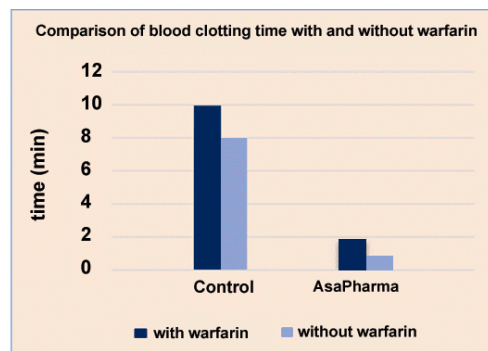
5) Absorbable in the body: the remaining active ingredients in closed wounds are naturally decomposed and eliminated by the body.

6) Easy to use: The powder structure and packaging of this dressing greatly facilitates the

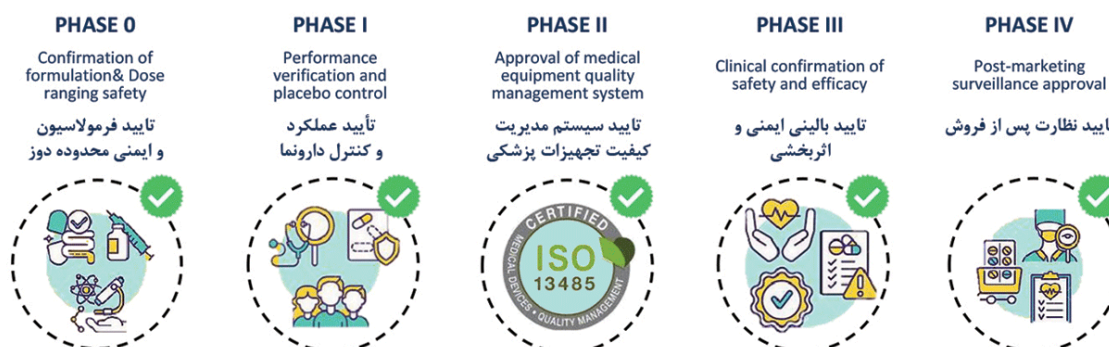
Fast blood coagulation in moderate and heavy bleeding, with AsaPharma hemostatic powder

In case of injury and bleeding, you can rely on AsaPharma hemostatic powder to stop the bleeding. This product works on all bleeding wounds. From minor cuts to deeper wounds and potentially fatal bleeding.

AsaPharma hemostatic powder is very easy to use (Just pour it on the wound, bandage the wound and apply pressure), it is so safe and effective. When AsaPharma hemostatic powder comes into contact with blood, it turns into a clot in the form of a gel within 30 seconds. This clotting process is independent of the body's natural clotting mechanisms. It has been proven that the bleeding arrest function of this product occurs even in the presence of anticoagulants such as warfarin.



The steps of obtaining product approvals from design and production to after-sales supervision





With the vision of responding to the needs of patients and therapists and the mission of making life easier for people in need of health care and better understanding of their world, Knowledge-based Asa Darou pooyesh Company entered the field of production to bring easy comfort to the patients.

Asa Darou Pooyesh Company aims to fulfill its mission in the field of health with benefit from its organizational capital, including; Manpower and technical knowledge and by focusing on organizational values including accountability, mutual respect, close communication with stakeholders and continuous quality improvement.



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