

# Advancing the science of wound bed preparation



**drawtex**<sup>®</sup>

A Hydroconductive Wound  
Dressing with LevaFiber™ Technology

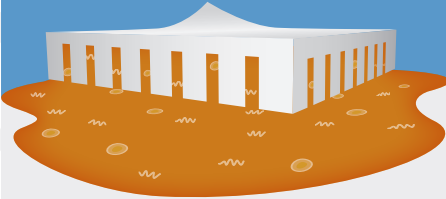


# How Drawtex<sup>®</sup> wound dressing works

LevaFiber<sup>™</sup> Technology provides three different types of action.

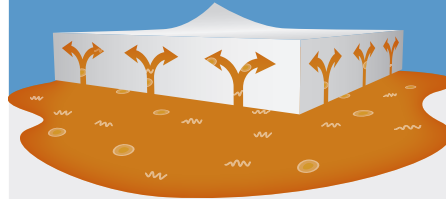
## Mechanisms of Action

### Capillary Action



Capillary action gives Drawtex its ability to move wound exudate and wound debris into the porous material of the dressing. With the small pores acting as capillaries, intermolecular attractive forces between the exudate and solid surfaces of the wound dressing allow the exudate to be drawn upward against the force of gravity.

### Hydroconductive Action



Hydroconductive action is controlled by Darcy's Law that defines the ability of a fluid to flow through porous media. Fluid can move from wetter to drier - even against gravity. This explains how water can be transported from the roots of a tree to the leaves. The **LevaFiber<sup>™</sup>** Technology of Drawtex allows the dressing to lift, hold and transfer the wound exudate both vertically and horizontally by hydroconductive action.

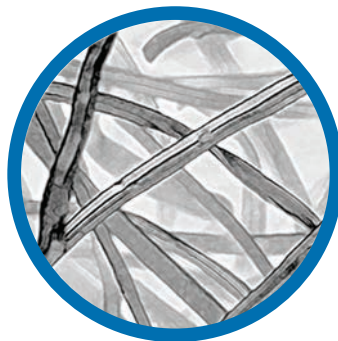
### Electrostatic Action



Electrostatic action occurs when the negatively charged Drawtex wound dressing comes into contact with the wound exudate. Ions from the exudate form a mobile layer of the opposite charge known as the electric double layer, effectively reversing the charge on the surface of the dressing to become positive. This allows the dressing to draw out a relatively large amount of exudate, devitalised tissue, bacteria and deleterious chemical mediators.

**LevaFiber<sup>™</sup>**  
**Technology**

**drawtex<sup>®</sup>**  
A Hydroconductive Wound  
Dressing with LevaFiber<sup>™</sup> Technology



# Drawtex for Effective Wound Bed Preparation

Wound bed preparation is the management of a wound in order to accelerate endogenous healing or to facilitate the effectiveness of other therapeutic measures.<sup>2</sup> Recent data has been published showing how wound treatment with Drawtex meets the complex challenges of wound bed preparation<sup>3</sup>:

## Facilitates removal of devitalised tissue

Using an advanced pattern recognition software algorithm\* to analyse digital wound images, researchers calculated wound measurements and analysed tissue composition of the wound bed. They found:

- Drawtex actively draws fluid away from the wound up to 150 cc/hour, retaining its integrity when moist.<sup>4</sup>
- Drawtex helps to selectively remove debris from the wound by drawing out adherent fibrin and slough, while leaving healthy granulation tissue in place.<sup>4</sup>

## Decreases excessive wound exudate

Another study concluded that the advantages of exudate removal by Drawtex were numerous. Not only was the fluid removed, but nutrients in the exudate that facilitate biofilm production were also drawn off.<sup>5</sup>

## Decreases the tissue bacterial level

- A study that evaluated Drawtex in an infected burn model demonstrated that Drawtex can draw methicillin-resistant *Staphylococcus aureus* (MRSA) from either an inoculated broth or an experimental burn wound eschar.<sup>6</sup>
- Similar results were reported in patients with chronic wounds, where tissue biopsy bacterial counts decreased from  $10^6$  to  $10^2$  CFUs per gram of tissue, while at the same time the bacterial counts in the Drawtex dressings increased up to  $10^4$  CFUs.<sup>7</sup>

## Removes harmful MMPs

Chronic wounds have excessive inflammation, increased pro-inflammatory cytokines, increased proteases such as MMPs, and decreased growth factors.<sup>8-10</sup> Removing or decreasing the harmful MMPs is an important aspect of wound bed preparation.

- One study reported that Drawtex could draw MMP-9 and transport it for a distance up to 7cm from the wound.<sup>11</sup>
- Another similar study showed that both MMP-9 and MMP-1 were drawn out of chronic wounds with Drawtex wound dressings, as well as a concomitant rise in MMPs in the Drawtex dressings.<sup>7</sup>

## Sets the stage for endogenous healing or wound closure procedures

With Drawtex meeting the goals listed above for wound bed preparation, obstacles to endogenous wound healing or wound closure procedures are removed.

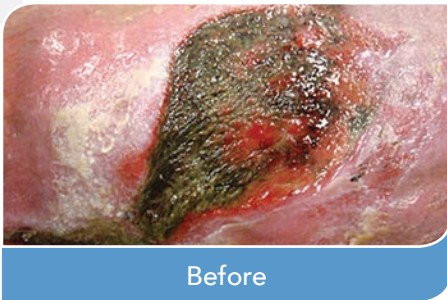
\*iCLR Technology® powered by Elixr®

# How Drawtex helps meet the complex challenges of wound bed preparation

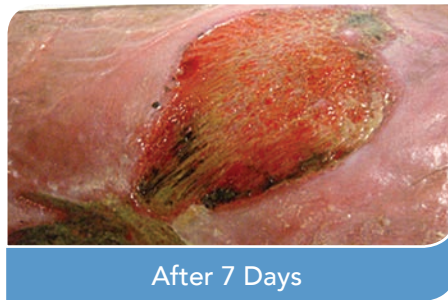
## Case Studies

### Case Study (I)

This wound on a 42-year-old male was of venous and autoimmune etiology. Drawtex therapy with multilayer compression was used for one week; no other debridement techniques were employed. The wound bed initially consisted of 15% granulation, 85% slough and eschar. After seven days of hydroconductive debridement, the wound bed consisted of 41% granulation and 59% slough and eschar.



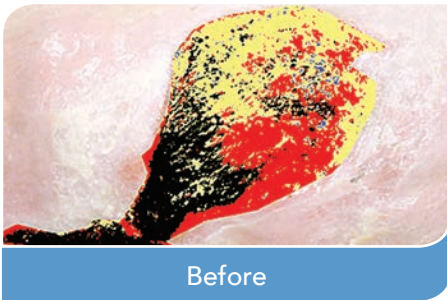
Before



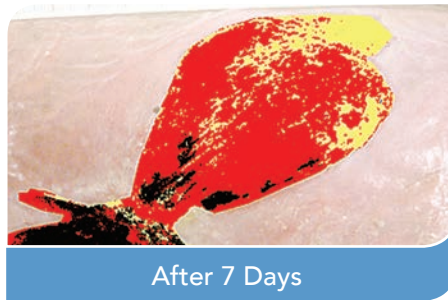
After 7 Days



### iCLR Technology® powered by Elixr®\*



Before

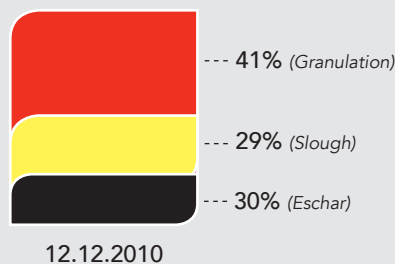
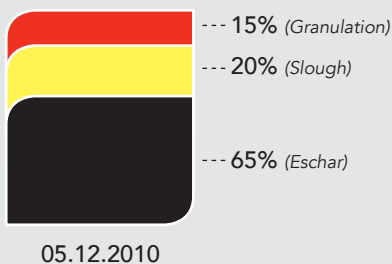


After 7 Days



■ Granulation   
 ■ Slough   
 ■ Eschar

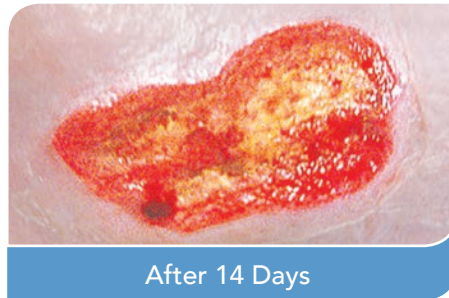
### Effect of Drawtex After One Week



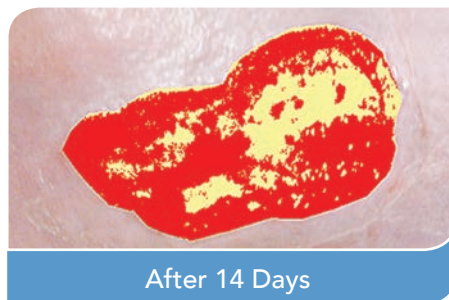
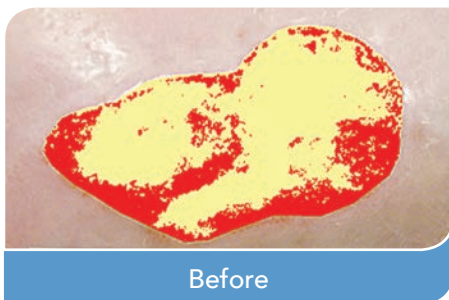
\*iCLR Technology® powered by Elixr® is a statistical pattern recognition algorithm that classifies each individual wound colour pixel in a wound image, providing a documented variance of only 1% (with flat wound images).

## Case Study (II)

This 72-year-old male exhibited a wound of mixed venous and arterial etiology. A Drawtex dressing was placed on the wound with light compression; no other debridement techniques were employed. The wound bed initially consisted of 29% granulation and 71% slough. After two weeks of hydroconductive debridement, the wound bed consisted of 65% granulation and 34% slough.

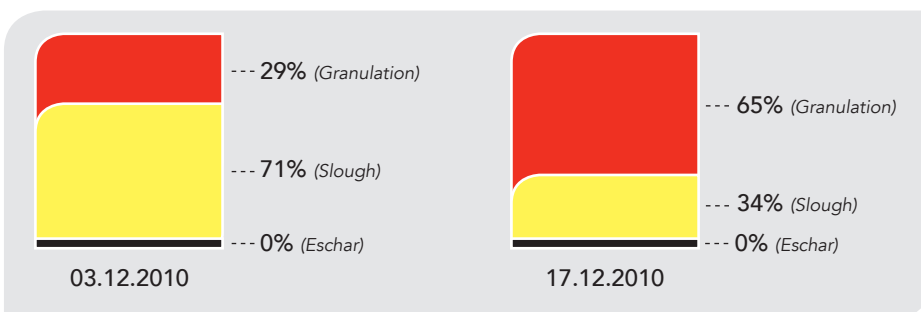


## iCLR Technology<sup>®</sup> powered by Elixr<sup>®</sup>\*



■ Granulation   
 ■ Slough   
 ■ Eschar

## Effect of Drawtex After Two Weeks



*“Drawtex is proud to have become a market leader in product quality and innovation.”*



# Case Studies (continued)

## Case Study (III)

This 68-year-old male presented with a venous ulcer that had been present for 35 years. During that time, it had been treated with a hydrogel dressing covered by short stretch bandaging changed twice weekly. Drawtex was applied directly onto the wound and short stretch bandaging continued. After six days of treatment with Drawtex, the ulcer had decreased in size by 30% to 50%.



Before

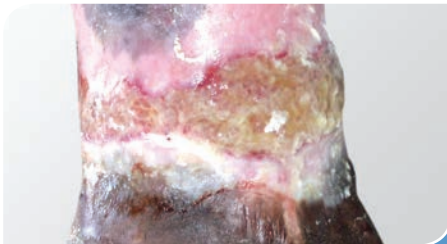


After 6 Days



## Case Study (IV)

This female patient had developed a wound after her leg started "itching." Skin irritation and scratching caused a small wound that grew larger every day. The wound discharged large volumes of fluid, leading to more scratching by the patient. Only 24 hours after Drawtex was applied, the "itching" disappeared completely. The wound bed responded well to the treatment, and the patient experienced no more itching, pain or discomfort.



Before



After 5 Days

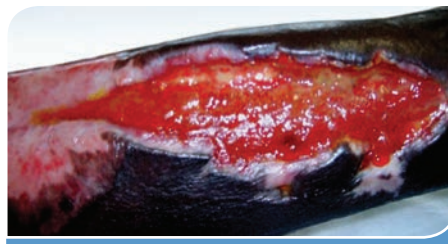


## Case Study (V)

This patient suffered from a severe burn wound for more than a month, with complaints of incapacitating pain and a bad odour. Skin grafting was not possible because the wound bed was badly infected, with high volumes of exudate. Topical medication along with standard treatment produced very limited success. Drawtex was used along with petrolatum gauze, and after 24 hours the dressings were green with Pseudomonas. By day seven, the Drawtex treatment had reduced the swelling and odour and improved blood circulation. In addition, enhanced granulation took place, thus creating a healthy wound bed. The wound healed completely within 30 days, and no skin grafting was required.



Before



After 7 Days



# How to use Drawtex

Drawtex is indicated for wounds with moderate to high levels of exudate including:

## Chronic wounds

- Leg ulcers
- Diabetic foot ulcers
- Pressure ulcers (stage 2-4)

## Acute wounds

- Complex surgical wounds
- Burns



**NOTE:** Drawtex is contraindicated for arterial bleeding.

## Drawtex protocols for use



### 1 CUT

Drawtex may be cut to conform to wound shape. Any side of Drawtex can be used against the wound bed.



### 2 APPLY

For low exudating or dry wounds, apply a nonadherent (perforated) dressing before applying Drawtex. For best results, ensure dressing has direct contact with wound bed.



### 3 LAYER

For moderate to highly exudating wounds, apply Drawtex directly to wound bed. For heavy exudate, apply additional layers as necessary.



### 4 COVER

Cover with a secondary dressing or bandage of choice.



### 5 CHANGE

Change Drawtex every one to three days, as necessary. Once exudate is under control, dressing may be changed less frequently. If Drawtex is adherent, irrigate with saline for easy removal.

## Drawtex can be easily cut and shaped to fit each type of wound.



### SACRAL SHAPE

To fold into heart-shaped wounds, while vertical cuts splay slightly, filling the area.



### SPIRAL SHAPE

To fill cavities or cover amputations.



### STOMA SHAPE

To fit around G-tubes and trach tubes. Drawtex Tracheostomy dressing may also be used.



### DRAIN SHAPE

To drain by way of cutting strips with the opposite end going into a colostomy bag.

## Drawtex Mechanisms of Action

- Drawtex facilitates removal of wound debris.<sup>4</sup>
- Drawtex decreases exudate, tissue bacterial levels, and harmful MMPs.<sup>1-11</sup>
- Drawtex sets the stage for endogenous healing or wound closure procedures.
- Drawtex mechanisms of action differentiate it from other standard dressings.<sup>1</sup>

## Drawtex Product Information

Catalogue #	Size	Carton Qty.	Shipper Qty.
<b>D0505</b>	5cm x 5cm	10 Dressings	10 x 10 = 100
<b>D7575</b>	7,5cm x 7,5cm	10 Dressings	10 x 10 = 100
<b>D1010</b>	10cm x 10cm	10 Dressings	10 x 10 = 100
<b>D1520</b>	15cm x 20cm	10 Dressings	10 x 10 = 100
<b>D2020</b>	20cm x 20cm	10 Dressings	10 x 10 = 100
<b>R175</b>	Rolls 7,5cm x 1m	5 Rolls	5 x 4 = 20
<b>R101</b>	Rolls 10cm x 1m	5 Rolls	5 x 4 = 20
<b>R201</b>	Rolls 20cm x 1m	5 Rolls	5 x 4 = 20
<b>SD100</b>	Rolls 10cm x 1,3m	5 Rolls	5 x 4 = 20
<b>DT1010</b>	10cm x 10cm Tracheostomy	10 Dressings	10 x 10 = 100

### References:

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7. Ochs D, Uberti G, et al. Evaluation of mechanisms of action of a hydroconductive wound dressing (Drawtex) in chronic wounds. *Wounds.* 2012;24(9) (Suppl):6-8.
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