Advancing the science of wound bed preparation
How Drawtex® wound dressing works

LevaFiber™ Technology provides three different types of action.

### Mechanisms of Action

<table>
<thead>
<tr>
<th>Capillary Action</th>
<th>Hydroconductive Action</th>
<th>Electrostatic Action</th>
</tr>
</thead>
<tbody>
<tr>
<td>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.</td>
<td>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 Technology of Drawtex allows the dressing to lift, hold and transfer the wound exudate both vertically and horizontally by hydroconductive action.</td>
<td>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 large amount of exudate, wound debris, bacteria and harmful MMPs.</td>
</tr>
</tbody>
</table>

Based on these mechanisms of action, Drawtex facilitates effective wound bed preparation.²
Drawtex facilitates 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. Recent data have been published showing how wound treatment with Drawtex assists with the complex challenges of wound bed preparation:

- **Facilitates removal of debris**
  Using an advanced pattern recognition software algorithm to analyze digital wound images, researchers calculated wound measurements and analyzed 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.
    - Drawtex helps to remove debris from the wound by drawing out fibrin and slough, while leaving healthy granulation tissue in place.

- **Draws and absorbs 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.

- **Draws bacteria from the wound**
  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.
  Similar results were reported in patients with chronic wounds, where tissue biopsy bacterial counts decreased from $10^5$ to $10^3$ CFUs per gram of tissue, while at the same time the bacterial counts in the Drawtex dressings increased up to $10^6$ CFUs.

- **Draws harmful MMPs from the wound**
  Chronic wounds have excessive inflammation, increased pro-inflammatory cytokines, increased proteases such as MMPs, and decreased growth factors. 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 7 cm from the wound.
  Another similar study showed that both MMP-9 and MMP-1 were drawn out of chronic wounds with Drawtex wound dressings, with a concomitant rise in MMPs in the Drawtex dressings.

- **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 reduced.
How Drawtex helps meet the complex challenge

Case Study (1)
This 32-year-old man was admitted to the Trauma ICU with a gunshot wound. He developed a sacral pressure ulcer that was treated with negative pressure wound therapy (NPWT) prior to the decision to use hydroconductive dressings. Multiple layers of Drawtex were changed on alternate days until wound bed preparation was deemed acceptable. The wound initially was covered by debris and slough. After 8 days of treatment with Drawtex, the amount of slough and debris was greatly decreased.

Before
After 8 Days

iCLR Technology® powered by Elixr®

Before
After 8 Days

Effect of Drawtex After Eight Days

*CLR Technology® powered by Elixr® is a statistical pattern recognition algorithm that classifies each individual wound color 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 techniques were employed. The wound bed initially consisted of 29% granulation and 71% slough. After 2 weeks of using a hydroconductive dressing, the wound bed consisted of 65% granulation and 34% slough.

Effect of Drawtex After Two Weeks

iCLR Technology® powered by Elixr®
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 6 days of treatment with Drawtex, the ulcer had decreased in size by 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 odor. 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. Drawex was used along with petroleum gauze, and after 24 hours the dressings were green with Pseudomonas. By Day 7, the Drawex treatment had reduced the swelling and odor, and blood circulation improved. 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:

**Acute wounds**
- Complex surgical wounds
- Burns

**Chronic wounds**
- Leg ulcers
- Diabetic foot ulcers
- Pressure ulcers (stage 2-4)

NOTE: Drawtex is contraindicated for arterial bleeding.

**Protocols for use**

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

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

**Layer**
For moderately to highly exudative wounds, apply Drawtex directly to wound bed. For heavy exudate, apply additional layers as necessary.

**Cover**
Cover with a secondary dressing or bandage of choice.

**Change**
Change Drawtex every 1 to 3 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 lift and move exudate, wound debris, bacteria and harmful MMPs away from the wound bed, facilitating effective wound bed preparation.  

- Drawtex facilitates removal of wound debris. 
- Drawtex draws exudate, bacteria and harmful MMPs. 
- Drawtex sets the stage for endogenous healing or wound closure procedures. 
- Drawtex combines 3 mechanisms of action to differentiate it from other standard dressings.

## Drawtex Product Information

<table>
<thead>
<tr>
<th>Catalog #</th>
<th>Size</th>
<th>Carton Qty.</th>
<th>Shipper Qty.</th>
</tr>
</thead>
<tbody>
<tr>
<td>00300</td>
<td>2 x 2 in (5 x 5 cm)</td>
<td>10 Dresses</td>
<td>10 Cartons (100 Dresses)</td>
</tr>
<tr>
<td>00301</td>
<td>3 x 3 in (7.5 x 7.5 cm)</td>
<td>10 Dresses</td>
<td>10 Cartons (100 Dresses)</td>
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<tr>
<td>00302</td>
<td>4 x 4 in (10 x 10 cm)</td>
<td>10 Dresses</td>
<td>10 Cartons (100 Dresses)</td>
</tr>
<tr>
<td>00303</td>
<td>6 x 8 in (15 x 20 cm)</td>
<td>10 Dresses</td>
<td>10 Cartons (100 Dresses)</td>
</tr>
<tr>
<td>00304</td>
<td>8 x 8 in (20 x 20 cm)</td>
<td>10 Dresses</td>
<td>10 Cartons (100 Dresses)</td>
</tr>
<tr>
<td>00305</td>
<td>3 x 39 in (7.5 cm x 1 m)</td>
<td>5 Rolls</td>
<td>4 Cartons (20 Rolls)</td>
</tr>
<tr>
<td>00306</td>
<td>4 x 39 in (10 cm x 1 m)</td>
<td>5 Rolls</td>
<td>4 Cartons (20 Rolls)</td>
</tr>
<tr>
<td>00307</td>
<td>8 x 39 in (20 cm x 1 m)</td>
<td>5 Rolls</td>
<td>4 Cartons (20 Rolls)</td>
</tr>
<tr>
<td>00310</td>
<td>4 x 4 in TRACHEOSTOMY (10 x 10 cm TRACHEOSTOMY)</td>
<td>10 Dresses</td>
<td>10 Cartons (100 Dresses)</td>
</tr>
<tr>
<td>00321</td>
<td>½ x 18 in (1 x 46 cm)</td>
<td>10 Dresses</td>
<td>10 Cartons (100 Dresses)</td>
</tr>
</tbody>
</table>

## References:

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