KytoCel®

Chitosan wound dressing

PROTEX HEALTHCARE

KytoCel® harnesses the unique natural properties of chitosan to manage moderately to heavily exuding wounds

Chitosan is a non-toxic biopolymer extracted from shellfish[1] with a strong absorbent effect. It combines the properties of a hydrofiber and alginate in one unique microfiber dressing.
Chitosan's positive charge allows it to interact with negatively charged molecules such as bacteria, blood cells and proteins. This ability can be put to good use in biomedicine1, and, in particular, in wound management. Chitosan has many proven and unique properties that are beneficial at every stage of wound healing.[2]

Chitosan:
- Accelerates wound healing[1,3,4,5]
- Stimulates immune response1
- Is antimicrobial (bacteriostatic and fungistatic)[3,4,5,6]
- Is hemostatic[3,4,5,6]
- Is non-toxic[4,5,7]
- Has a high absorption capacity[3,4,5]
- Is biocompatible and biodegradable[3,4,5,6,7]
- fights pain and reduces scarring

KytoCel® gelling fibre dressing: the natural choice for managing moderately to heavily exuding wounds

KytoCel is a highly absorbent, conformable, gelling dressing composed of natural, biodegradable, acylated chitosan fibres that give the dressing many valuable features

Highly absorbent for optimal wound exudate management
- The unique chitosan fibers adhere to the exudate and transform into a high-tensile gel that retains exudate.
- Greater or comparable absorbency to other gelling fibre dressings[8]
- KytoCel has an outstanding ability to bind and lock away commonly encountered wound pathogens, such as E. coli and S. aureus[8], reducing wound bioburden and the risk of cross contamination at dressing change
- High wet strength allows simple one-piece removal

Minimal lateral wicking reduces the risk of peri-wound skin damage
- The vertical absorption demonstrated by KytoCel[9] prevents the spread of wound exudate to the edges of the dressing, protecting the peri- wound skin from the risk of maceration

Gelled KytoCel® dressing

KytoCel®: Natural antimicrobial action

- The positive charge of chitosan binds many common, negatively charged wound pathogens (such as E. coli, S. aureus, C. albicans, Pseudomonas auruginosa and MRSA[10]).
- KytoCel's antimicrobial action offers protection to infected wounds and reduces bioburden

KytoCel is more effective at reducing wound pathogens within and under the dressing than the most used Alginate and Hydrofibre®[8]

	% Reduction in bacteria*	
	E. coli	S. aureus
KytoCel®	96.17	94.13
Alginaat	49.78	4.4
Hydrofiber	36.13	23.2

*after 18 hours incubation at room temperature

Accelerates wound healing
- Chitosan has an accelerating effect on wound healing[7]
- It activates immune cells, cytokine production, giant cell migration and stimulation of type IV collagen synthesis[11], making it useful at all stages of tissue repair[2]
- KytoCel remains intact, even when fully saturated[8,9], allowing clean, simple, one-piece dressing removal that does not leave behind dressing fibers or residue[8,9]

KytoCel has an analgesic and anti-inflammatory effect
- Chitosan interacts with bradykinin and decreases prostaglandin production

KytoCel is hemostatic
- The unique positive charge of chitosan fibers enables them to stop bleeding by binding to negatively charged red blood cells, resulting in blood coagulation[3,4,5,6]

KytoCel reduces scar formation
- Chitosan inhibits excessive production of collagen, which reduces the risk of scar formation

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Order information

Product code	Description	Sales unit
3050	Kytocel wound dressing 5 cm x 5 cm	1 box, 10 dressings
3051	Kytocel wound dressing 10 cm x 10 cm	1 box, 10 dressings
3052	Kytocel wound dressing 15 cm x 15 cm	1 box, 10 dressings
3065	Kytocel wound dressing 2,5 cm x 30 cm	1 box, 10 dressings

References

1. Lee et al. The Open Biomaterial J 2009; 1: 10–20 **2.** Dai et al. Expert Rev Anti Infect Ther 2011; 9(7): 857–79 **3.** Li et al. J Bioact Compat Polym 1992; 7(4): 370–97 **4.** Khor and Lim. Biomaterials 2003; 24(13): 2339–49 **5.** Foda et al. Drug Dev Ind Pharm 2007; 33(1): 7–17 **6.** Niekrasewicz. Fibres and textiles. 2005; 13(6): 16–18 **7.** Jayakumar et al. 2011. http://www.intechopen.com/books/biomedicalengineering-trends-in-materials-science/novel-chitin-and- chitosanmaterials-in-wound-dressing **8.** Aspen Medical. Data on file. KytoCel dressing assessment. **9.** Aspen Medical. Data on file. Summary report. Performance comparison TR342 **10.** Aspen Medical. Data of file. Antimicrobial activity of chitosan based dressing **11.** Mezzana P. Acta Chir Plast 2008; 50:81–4

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