zorflexions

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CalgonCarbon

News on Zorflex® from Chemviron Carbon Cloth Division

Chemviron Carbon
Cloth Division

Swiss hospital sees wound closure times halved with Zorflex® dressings

See us at
EWMA 2014, Madrid
14-16 May, Stand10C01

Wound specialists at a hospital in Switzerland's Limmat Valley have seen wound closure times halved on average in an evaluation using Zorflex dressings on 45 patients with a range of wound types.

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Presented at the 2014 EWMA conference in Madrid, the results from Schlieren-based Limmattal Hospital add to the growing body of evidence that applying Zorflex activated carbon cloth directly onto wounds accelerates the healing process.

A key finding was that overall treatment costs can be reduced through faster wound closure. This took on average less than six weeks compared with the usual minimum of 12 weeks the hospital staff would expect with conventional dressings.

Limmattal wound care expert, Michaela Kaiser, explained the background:

Michaela Kaiser
Limmattal wound care expert

"Zorflex activated carbon cloth was presented at EWMA 2013 and seemed to us an interesting alternative to other wound dressings.

"The variety of wound dressings available makes the choice difficult, both for general health professionals and wound specialists. The treatment of individual patients can often change, and the time of healing be protracted. We had been looking for a safe and simple dressing that would be effective on all wound types."

In the evaluation, 45 patients with chronic wounds, prolonged healing processes, tumour-related wounds and traumatic wounds were treated with Zorflex. Applied directly onto the wounds, the dressings were changed at 2-7 day intervals.

"We found that the time to closure of the wounds was faster than expected, and the cloth worked successfully on different types of wound with no allergic or adverse reactions. Particularly good results were seen in post-surgical infected wounds," observed Michaela.

"Treatment with Zorflex showed rapid improvement, with complete closure seen on average in less than six weeks of therapy. In our experience of treating 2000 patients with chronic wounds per year over 10 years, closure time normally takes a minimum of 12 weeks using conventional types of wound dressings, such as alginate and foams."

With the treatment, wound exudation subsided immediately, stopping completely within 48 hours without antibiotic therapy. Easy to handle and cut to shape, the dressings were straightforwardly and painlessly removed using water, eliminated odours and left no carbon fibres in the wound bed.

"Treatment with Zorflex showed rapid improvement, with complete closure seen on average in less than six weeks of therapy."

Why Zorflex® is ex-race horse owner's on-wound favourite
Turn to p2

Zorflex® wound care benefits

- accelerates healing
- antimicrobial
- adsorbs odour
- no bioburden
- adsorbs ions and particles
- non-cytotoxic
- adsorbs endotoxins
- haemostatic
- breathable
- moisture wicking

Inside this issue

Zorflex® speeds ex-race horse's leg healing

Over a year on from a horrific injury to a thoroughbred horse's leg, the horse and its owner are working towards some events again this season, thanks to treatment using Zorflex-based Equi-Med wound dressings.

Back in April 2013 when Milton Keynes-based rider, Charlotte Woolhead, and her sister, Ellie, went down the yard to fetch their horses, they were faced with a horrific scene.

Dancer, Charlotte's 13-year-old ex-race horse was standing in a pool of blood, resting one of his back legs, which was gaping open. Charlotte believed he had got caught on a wire fence.

"I was horrified," said Charlotte. *"My sister was on the phone straight away and our local vet was there within 20 minutes. I was completely distraught at the thought I would lose Dancer as his injury looked so bad."*

Dancer was taken to equine vet, Cedric Chan, and was then sedated and x-rayed. The x-rays showed a clean, sliced wound. The vet cleaned the horse's wound and tidied it up before dressing it with an Equi-Med wound dressing containing silver-impregnated Zorflex.

Dancer's wound took just over five months to heal and he

"With Equi-Med wound dressings the results were much quicker. I truly believe that the wound dressing is the reason it healed so quickly."

was signed off from the vet in September 2013. This was all without the need for skin grafts and with only minimal debriding of the wound.

Originally told that Dancer's wound would take a year to heal, Charlotte added, *"With Equi-Med wound dressings the results were much quicker. I truly believe that the wound dressing is the reason it healed so quickly."*

Charlotte and Dancer are now enjoying hacking out together and are working towards some endurance rides, show jumping and cross country events this season.

Used for treating wounds and a variety of ailments, Zorflex-based Equi-Med wound dressings are available from Seaham-based Equi-Med AG. **See www.equimedag.co.uk for details.**

In brief

Division shortlisted for Bionow award

At the time of going to press, Chemviron Carbon Cloth Division has been shortlisted in the Export Award category of the 2014 Biomedical Awards, sponsored by Bionow. Now in their second year, the awards celebrate the achievements of biomedical companies in the north of England, highlighting the strength and diversity of companies in sector. And the winner was... **find out on our blog at Zorflexions.com**

Furnaces for 1.5m cloth come closer

A pair of horizontal furnaces which will make Zorflex® available in the optional larger width of 1.5m have moved a step closer to operation following completion of phase 1 of their installation in Houghton-le-Spring. A platform has been built to support the furnaces, which are both now in place. Cloth Division General Manager Bob Brown said, *"Phase 2 will involve connecting the furnaces to services and installing liners. We expect to commission the furnaces in the autumn."*

The main attraction in new Lithium-SO_2 battery

Zorflex® has been used successfully to maintain steady current output in a novel Lithium-SO_2 battery developed by a combined team from ORNL, Oak Ridge, USA, and Zhejiang University, Hangzhou, China.

With an energy density two to four times greater than alkaline batteries, Li-SO_2 batteries have previously found use in industrial and consumer applications requiring long service life. Despite their advantages, however, they are limited by a need for high pressure resistance to withstand the build-up of liquefied SO_2 within the cells, fire risk from flammable solvent under abuse conditions, and inconsistent power output.

Steady as she goes: Zorflex stabilises current flow

The ORNL/Zhejiang team, led by Dr Huabin Xing, has developed a novel Li-SO_2 battery it hopes to see commercialised soon (project published in Angewandte Chemie journal). The new battery uses a non-flammable ionic liquid electrolyte and Zorflex as a cathode, attracting Lithium ions onto its surface. With its high electrical conductivity levels, Zorflex has helped maintain a consistently stable flow of current, overcoming previous problems with power variability.

Plasma and Zorflex® beat water micro-pollution

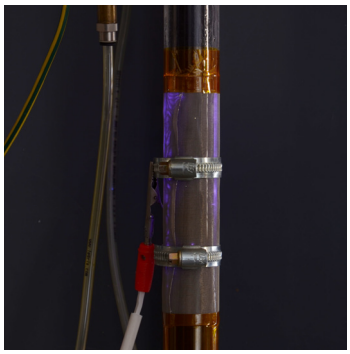
Micro-pollutants from wastewater treatment plant effluent, present in both groundwater and drinking water, are causing concern Europe wide. Breakthrough research at Ghent University, Belgium, has led to a new, eco-friendly way to destroy these contaminants using plasma treatment and Zorflex®.

Insufficient removal of many hazardous organic contaminants by modern wastewater treatment plants means they often occur as micro-pollution in surface water, ground water and drinking water. Amongst the contaminants of most concern are organic pollutants including pesticides, antibiotics and hormones.

Some pollutants are hazardous in relatively small concentrations, to humans, animals, aquatic life, and the global ecosystem. Others have uncertain long-term effects on health and environment.

The use of plasma discharge (lightning is a naturally occurring example) offers the possibility to destroy organic micro-pollutants without using dangerous chemical agents. Plasma discharge, in or in contact with water, is a promising new water treatment technique, but the construction of a pilot-plant water treatment system would require further research and process optimisation.

Research team member, Anton Nikiforov, explained the project: *"We constructed and tested a laboratory-scale reactor based on using pulsed dielectric barrier discharge – pDBD - above water, using Zorflex active carbon cloth placed around a ground electrode. We used the pesticide atrazine as a micro-pollutant, since it's a priority substance in EU parliament water policy."*



Plasma discharges between a HV electrode and water on Zorflex

The plasma discharge was generated between a high voltage electrode covered with a dielectric, and a film of water formed on the surface of the Zorflex cloth. Zorflex was used to help form an even film of water and to adsorb micro-pollutants from the water. The high adsorption capability of Zorflex provided a way to increase local concentration of the atrazine directly in the plasma zone.

Anton added, *"We found a significant increase in atrazine decomposition when Zorflex was included in the setup. The atrazine was more than 70% destroyed when we used Zorflex over 30 minutes of treatment, but we only saw a 38% reduction without the textile when the same input power was used.*

"The atrazine was more than 70% destroyed when we used Zorflex, but only 38% without the textile"

"In summary, we found that that the efficiency of the system was almost doubled when Zorflex active carbon fabric was placed in the plasma reactor, with deeper degradation of atrazine to CDAT, a more stable by-product."

Zorflexions.com blogsite launched

Chemviron Carbon Cloth Division embraces the digital age with a new blogsite – Zorflexions.com – to tell the ongoing Zorflex® story and to stimulate conversations with you our stakeholders.

Sign up for Zorflexions eNews at
www.zorflexions.com

The Cloth Division launched the **Zorflexions.com** blog recently, featuring the story on the back page of this issue, about the remarkable healing of an infected diabetic hand wound in just seven days.

The aim behind the blog is to allow us more flexibility and frequency of sharing news and developments with you in between issues of our printed newsletter. It also allows our readers to leave comments and contribute to the conversation.

A further benefit is that the Zorflexions blog lets us engage with a wider audience than was previously possible. We believe this is especially important, given the very positive results we've been seeing with clinical evaluations of Zorflex in wound care.

While in the past we have largely dealt with manufacturers who use Zorflex in their products, our involvement in developing wound care products means that we now engage with a wider range of stakeholders. The Zorflexions blog will help doctors, tissue viability specialists, health bodies, academics and end users stay in touch with the latest case studies, clinical evaluations and other developments.

In parallel with the blogsite, we are re-launching our eNews, also under the Zorflexions banner. We hate spam as much as you do, so we'll issue updates when we have something significant to share, with links to new blog posts and other news.

zorflex®
Activated Carbon Cloth

Diabetic hand wound heals in a week

A man with type 1 diabetes, who badly grazed his hand against some rough timber, sees his infected hand healed in seven days with Zorflex®

Last December, the 62-year-old subject had been reaching down behind a pile of timber to reach some screws. On the way back up, his hand was badly scratched by some sharp timber edges.

After a week the wound became painful and infected, causing the hand to swell. The normal course of action – and one which we still advocate – would be to seek medical attention.

However, being aware of success stories about Zorflex® on infected wounds, and armed with some samples, he decided to self-treat.

His photo diary on our Zorflexions.com blog tells the full story, but here is a flavour:

Day 1 (December 15)

Zorflex dressing applied

The wound is infected, the hand badly swollen, and the periwound is inflamed and painful.

A Zorflex® dressing is applied directly to the wound, secured with wound tape. There is no cleansing, pain relief or other intervention. Pain subsides in a day.

Day 3 (December 17)

Fresh dressing applied

The dressing is removed, with wound debris and slough attached. Fresh dressing applied and left to do its work.

Day 7 (December 21)

Dressing removed, wound healed.

The Zorflex dressing is removed, revealing the healed wound. No further treatment takes place. Subject looks forward to a pain-free, stress-free Christmas and New Year break.

The intrepid self-treating DIYer is none other than Jack Taylor, our own Business Development Manager for Northern Europe, who said, *"I just practiced what I preach to the clinicians I meet on my travels."*

Zorflex® A–Z

So diverse are the applications for Zorflex® activated carbon cloth, it is impossible to list them all here. Here is a sample:

- Air conditioning
- Cabin air filtration
- Catalyst media
- Conservation
- Domestic odour control
- Electrodes
- EMI shielding
- Emission control
- Food freshness preservation
- Fuel cells
- Gas sensor protectors and filters
- NBC contamination wipes
- NBC protective clothing
- Ostomy filters
- Personal protective equipment
- Protection of artefacts
- Purification filters
- Respiratory masks
- Sensor protection
- Solvent recovery
- VOC filtration
- Water filtration
- Wound dressings
- Zorflex–your solution?

To discuss whether Zorflex® can be used in your application contact us on +44 (0) 191 584 6962
or email: rbrown@calgoncarbon-eu.com

Sign up for our eNews updates
at www.zorflexions.com

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If you would like to find out more about Zorflex® or discuss how Zorflex® can be used in your particular application, please contact the relevant sales team member who will be happy to help.

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