

## BIO-ACTIVE CABLES

**ECG Cables**



**SpO2 Cables**



**IBP Cables**



**These cables are blue colour for identification  
They keep their bio-active property all along their life time**

## New and efficient technology anti-microbial treatment for cables

- ✓ ANTIBACTERIAL
- ✓ REUSABLE
- ✓ NON TOXIC
- ✓ WITHOUT HEAVY METALS
- ✓ DURABLE
- ✓ VERY EFFICIENT
- ✓ STOPS THE CROSS-CONTAMINATIONS  
(Hospital aquired diseases)
- ✓ NO COST INCREASE
- ✓ ALLOWS REUSABLE M.D.



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### High efficiency

The pathogenic and potentially pathogenic micro-organisms are causing many infections in hospitals (hospital acquired infections). Millions of persons in the world are infected by multi-resistant germs, even in Europe, and too many people are dying. These infections are often caused by contaminated materials, especially plastic surfaces close to the patients, like monitoring devices and their cables.

### Water indissoluble

### Durable

The germs multiplication is related to the pH. As well as the acid protective membrane of the skin, a pH<4 avoids the installation of bacteria on a plastic surface.

### Non toxic

### No heavy metals

On this phenomenon is based a new and very efficient technology of anti-microbial durable treatment of surfaces and cables. According to the Lewis acid and basis principle, oxonium ions (H<sub>3</sub>O<sup>+</sup>) are released and lead to the pH drop only in surface. This reaction disrupts the pH delicate stability of the cell. The anti-microbial efficiency is set on the micro-organisms surface proteins denaturing, on enzymes systems inactivation, and on the DNA proteins synthesis blocking. The additives are water indissoluble and their efficiency is stable and durable. In parallel, some studies are proving the non toxicity. The anti-microbial efficiency can be proved by microbiological analysis.

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**Example with *Acinetobacter baumannii*** – Germs incubation collected on: **first line** a bio-active cable, **second line** a non-treated sample cable. Time elapsed after contamination from 0, 3, 6, 9 and 12 hours



## Several studies are showing the contamination of conventional ECG cables

### Study 1 *New Cardiology* Volume 2, Issue 3, Page 14 (March 2004) JANCIN Antibiotic Resistant Pathogens Found on 77% leads

100 ECG lead wires for telemetry chosen at random after having received a preparation to be reused on new patients in intensive care, have been cultured. 77% of these ECG lead wires were contaminated by one or several hospital acquired germs, resistant to one or several antibiotics.

### Study 2 *INFECTION CONTROL AND HOSPITAL EPIDEMIOLOGY* Vol. 21 No. 9, Page 575 FALK Outbreak of Vancomycin Resistant enterococci burn unit

Enterococci contamination, Vancomycine resistant, in a burn victims unit – during a weekly supervision by culture, an ECG cable on which one no culture had been done previously, has shown a positive VRE culture (Vancomycine resistant enterococci). The contamination has started again from a cable which had been contaminated by a VRE holder patient, who had left 38 days before. According to our data VRE remains active during more than 5 weeks and then can make a new contamination

### Study 3 *NTI News*. 2006 May 24:BI BROWN ECG wires source of infection

ECG reusable cables have been identified in several studies as a source of resistant bacterias and a cause of hospital acquired infections.

### Study 4 *AORN JOURNAL* AUGUST 2007, VOL 86, NO 2, Page 249 BARNETT Not so hidden costs

ECG cables can be a significant source of infection. A hospital close to Richmond, Virginia, has been only using disposable lead wires and wireless connections for a certain time. Since this change, the infections in operating theatre have shown a drop of 40%.

### Study 5 *AANA Journal/February 2001/Vol. 69, No.1, Page 44* PERRY The prevalence of visible blood 2001

Although this cannot be eye-seen, ECG cables (mainly lead wires) are the most blood contaminated devices in the operating theatre.