CREATING HIGHER STANDARDS IN INFECTION CONTROL

ZIMMER BIOMET

Zimmer® Natural Nail® (ZNN) **System** with **Bactiguard® Technology**

ZNN with Bactiguard Technology* offers the combination of a unique non-antibiotic-eluting, anti-infective coating with a clinically successful intramedullary nailing system.[1–3] This pairing is designed to provide a promising solution for addressing implant associated infections[4] and improving patient outcomes.[5]

The Value of Bactiguard Technology

Responsible Care

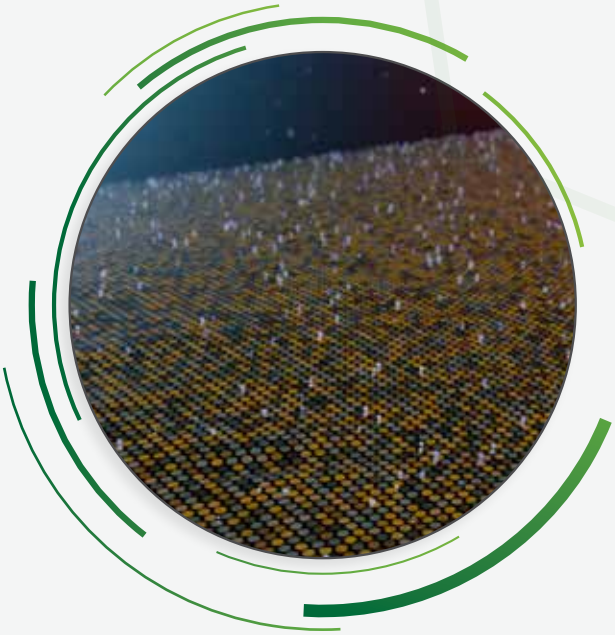
Designed to address the risk of implant associated infection and increase patient safety, without eluting antibiotics.

Cost and Resource Reduction

Provides a promising solution to current infection management approaches that often result in higher costs and resource allocations for society and healthcare at large.[6,7]

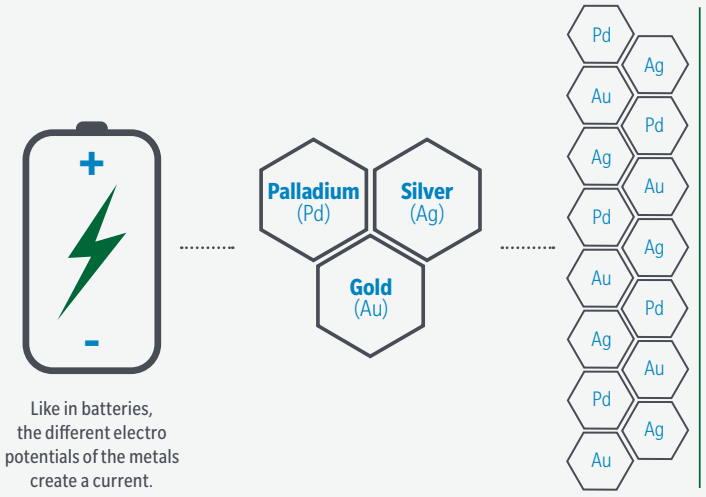
Clinical Outcomes

Offers value to the practice through the use of a safe and proven anti-infective technology.



How does Bactiguard Technology work?

Bactiguard Technology is a thin, durable and non-eluting noble metal (gold, silver and palladium) alloy coating that is firmly attached to the implant surface. When the coating comes into contact with moisture, the noble metals create a unique galvanic (or battery) effect that generates tiny pico currents on the implant surface, reducing bacterial adhesion and subsequent risk of biofilm formation.[8]



Like in batteries, the different electro potentials of the metals create a current.

Bactiguard Technology is clinically-proven for various non-orthopedic medical devices in 40 clinical trials and more than 100,000 patients.[9]

PREVALENCE

3.2↑ MILLION

In Europe, 3.2 million patients are estimated to receive a healthcare-associated infection (HAI) diagnosis each year, of which an estimated 37,000 have proven to be fatal.[10]

SOCIOECONOMIC IMPACT

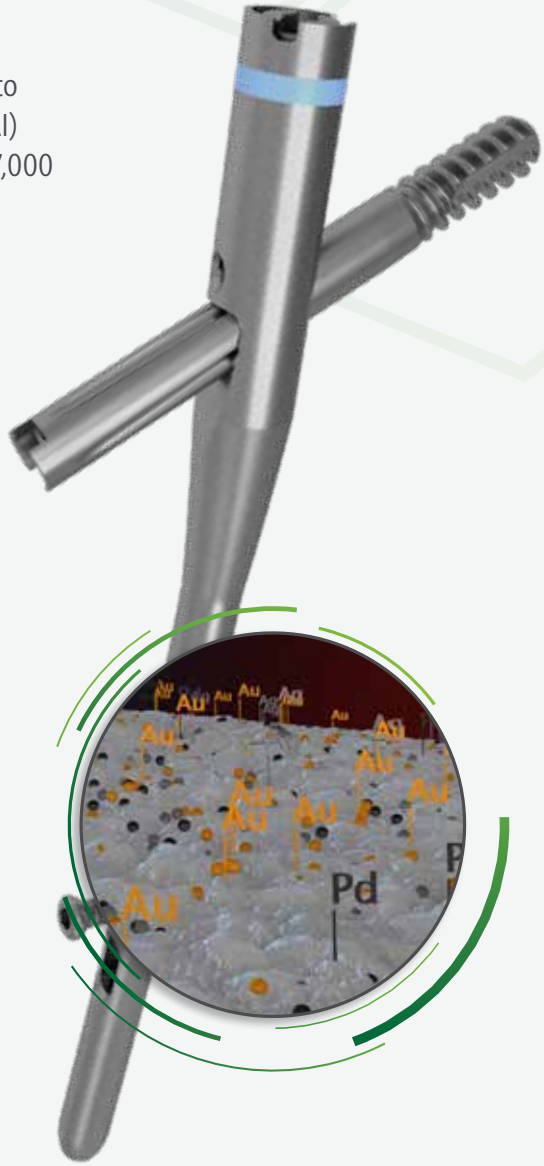
€7↑ BILLION

This leads to 16 million extra-days of hospital stay and costs approximately €7 billion annually across Europe.[11]

BIOFILM INFECTION

65%↑

More than 65% of the infections are related to biofilm.[12,13] In orthopaedic trauma, an estimated 30% of cases may result in infection[14], with almost 80% of all open fractures presenting some bacterial contamination.[15]



*Bactiguard-coated ZNN nails are intended to prevent infections, but are not indicated for the treatment of established infections. Use of this product does not replace existing standard practice for infection prevention such as the use of prophylactic antibiotics.

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1. CER 10113-01_Zimmer Natural Nail System_29 July 2020. **2.** CER 122746_06 Cephalomedullary Nail (CMN) Zimmer Natural Nail System. **3.** 285122_CL1_E00_00_#01_Affixus Natural Nail System Humeral Nail **4.** 3481.1-EMEA **5.** Kai-Larsen, Ylva, REP-03324-3.04671-0200-REV v.03 Review of the clinical safety of Bactiguard coated products (April 2021) **6.** World Health Organization, Report on the Burden of Endemic Health Care-Associated Infection Worldwide - Clean Care is Safer Care. WHO 2011. **7.** Golics et al., The impact of disease on family members: a critical aspect of medical care. Journal of the Royal Society of Medicine 106(10) 399-407, 2013. **8.** Donlan, Biofilms and Device-Associated Infections. Emerging Infectious Diseases 7(2): 277-281, 2001. **9.** Review of the clinical safety of Bactiguard coated products.4671-0200-REV, 2021. **10.** European Centre for Disease prevention and control. Economic evaluations of interventions to prevent healthcare associated infections. Literature review. Stockholm: ECDC; 2017. **11.** World Health Organization. Report on the endemic burden of healthcare-associated infection worldwide. ISBN 978(92) 4:150150-7, 2011 **12.** McLean et al., Training the Biofilm Generation - A tribute to J. W. Costerton. Journal of Bacteriology 194(24): 6706-6711, 2012. **13.** Williams and Costerton, Using biofilms as initial inocula in animal models of biofilm-related infections. Journal of Biomedical Materials Research Part B: Applied Biomaterials 100B(4): 1163-1169, 2012. **14.** Schwarz et al., 2018 International Consensus Meeting on Musculoskeletal Infection: Research Priorities from the General Assembly Questions. Journal of Orthopaedic Research 37(5): 997-1006, 2019. **15.** Seekamp et al., Bacterial Cultures and Bacterial Infections in Open Fractures. European Journal of Trauma and Emergency Surgery 26(3): 131-138, 2000.

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