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INNOVATOR **Nano man**

Nanotech researcher Robert Burrell: His pioneering work could one Day rid the world of aching joints

By Felix Vikhman
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"Silver's anti-microbial properties have been known for years," says University of Alberta professor Robert Burrell, a researcher fluent in the disparate fields of microbiology and material sciences. "Many ancient civilizations discovered that water kept better if it was stored in silver vessels." Two thousand or so years later, Burrell has, through his pioneering research, continued to harness the unique properties of the precious metal.

In the early 1990s, Burrell headed up a research team for Calgary's Westaim Corp. It was there that he developed Acticoat Burn Dressing, which is now used by virtually every burn-trauma unit in the U.S., bringing in revenues of \$10 million annually. When he began the project, traditional anti-microbial creams had to be reapplied up to 12 times a day because the chloride in skin causes silver to become inactive. Burrell's solution: borrowing from a computer-chip manufacturing process, he built, atom by atom, what are known as nano-crystals -- particles with a diameter of less than 15 billionths of a metre. This allows a controlled release of silver ions, meaning that a single piece of Anticoat Burn Dressing lasts a full week.

Burrell's discovery has taken a new twist recently, and propelled him back into the lab: doctors report that Acticoat is also an effective anti-inflammatory. Though the phenomenon isn't yet fully understood, Burrell envisions a nano-crystalline cream as ubiquitous as, say, Polysporin -- one that soothes eczema and joint pain. Given the Western world's ageing population, such a miracle potion would bring a massive sigh of relief.