

PRESS RELEASE

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Dr. Paul Sethi of ONS Lead Author: *Efficacy of topical benzoyl peroxide on the reduction of Propionibacterium acnes during shoulder surgery*



GREENWICH, CT – June 30, 2015, ONS orthopedic surgeon and president of ONS Foundation for Clinical Research and Education **Dr. Paul Sethi** is lead author in a new paper published in The Journal of Shoulder and Elbow Surgery. The research for the paper evaluated the effect that topical benzoyl peroxide (BPO), with chlorhexidine skin preparation, has on the presence of P. acnes cultured at the time of shoulder surgery. The authors hypothesized that adding topical BPO to the pre-operative skin preparation would reduce the number of positive P. acnes cultures identified during surgery.

Propionibacterium acnes infection is a significant problem after shoulder surgery. Residual P. acnes is found on the skin up to 29% of the time immediately after surgical skin preparation and in 70% of dermal biopsy specimens. These residual bacteria may be a source for infection. Identifying more ideal skin preparation may help reduce the risk of infection.

Fifty patients undergoing first-time (arthroscopic) shoulder surgery were treated with topical 5% BPO cream 48 hours before surgery. After skin preparation, 13 samples per subject were obtained. Cultures were held for 14 days. 650 culture specimens were obtained. The skin was positive at the initiation of surgery in 6% of cases. Tissue samples were positive in 6%. The skin was positive in 10% at the end of surgery. None of these rates of positive culture were different from the 4% rate observed with a control swab.

Application of BPO is an effective way to reduce P. acnes on skin at the beginning and, importantly, at the end of a surgical procedure. This may result in a lower risk for postoperative infection.

"The setbacks and costs associated with infection after shoulder surgery are significant, said lead author **Paul M Sethi**. "Our first study identified the patients' skin as the source of bacteria that may cause infection, and highlighted the limitations of current skin surgical preparation. Our team used established dermatologic principles to improve the way we clean the skin. Dermatologists have used benzoyl peroxide to treat P. Acnes on our face for 50 years. We chose to study this same medicine on the shoulder. Our findings are very exciting. Our data demonstrates that we can significantly reduce potentially dangerous bacteria after skin treatment with benzoyl peroxide. By reducing these bacteria, we hope to reduce the risk for shoulder infection following surgery."

The article is "Efficacy of topical benzoyl peroxide on the reduction of Propionibacterium acnes during shoulder surgery" by James R. Sabetta, MD, Vishal P. Rana, BS, Katherine B. Vadasdi, MD, R. Timothy Greene, MD, James G. Cunningham, MD, Seth R. Miller, MD, Paul M. Sethi, MD (doi.org/10.1016/j.jse.2015.04.003). The article appeared in The Journal of Shoulder and Elbow Surgery, Volume 24, Issue 7 (July 2015), published by Elsevier.

Orthopaedic and Neurosurgery Specialists PC (ONS) is an advanced multi-specialty orthopedic and neurosurgery practice in Greenwich and Stamford, CT. ONS physicians provide expertise in the full spectrum of musculoskeletal conditions and injuries, sports medicine, minimally invasive orthopedic, spine and brain surgery, joint replacement and trauma. The main office is located at 6 Greenwich Office Park on Valley Road, Greenwich, CT. For more information, visit www.onsmd.com, or call (203) 869-1145.

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