

Reduce Post-Joint Replacement Surgical Site Infections (SSIs) with Molecular Testing

By the numbers: burden of joint replacement SSIs



Over 1 million

Total hip and total knee replacement procedures performed each year in the United States¹



4%–5%

Readmission rate following lower extremity joint replacement²



\$60,000–\$100,000

Cost of a post-prosthetic knee or hip infection³

>1/3 of readmissions due to infection

(63% of infections are due to Staph species like *S. aureus*)²

Why Screen for MRSA/*S. aureus* Colonization?

Several evidence based SSI Guidelines support the use of screening



Colonized patients are 9 times more likely to develop an SSI⁴



More than **8 out of 10 cases** of *S. aureus* bacteremia are believed to be caused by a patient's own flora^{5,6}

Why Use Molecular (PCR) Testing?

Fast and accurate detection of colonization facilitates targeted infection control practices before surgery



Standard culture techniques may miss MRSA colonization in up to a third of cases^{7,8}



Performing molecular screening during presurgical visit enables same day results



Enables targeted decolonization reducing SSIs up to 60%⁹

References:

- 1 Kremers HM, et al. Prevalence of Total Hip and Knee Replacement in the United States. *J Bone Joint Surg Am.* 2015;97:1386–1397.
- 2 Zawadzki N, et al. Readmission due to Infection Following Total Hip and Total Knee Procedures: A Retrospective Study. *Ed. Steven Callens. Medicine* 96.38 (2017): e7961.
- 3 The Business Case, A Brief for Hospital Administrators: Prevent Surgical Site Infection for Hip and Knee Arthroplasty. Cambridge, MA: Institute for Healthcare Improvement; 2012. (Available at www.IHI.org)
- 4 Kluytmans J, et al. Nasal carriage of *Staphylococcus aureus*: epidemiology, underlying mechanisms, and associated risks. *Clin Microbiol Rev.* 1997;10:505-20.
- 5 von Eiff C, et al. Nasal carriage as a source of *Staphylococcus aureus* bacteremia. *Study Group. N Engl J Med.* 2001;344:11-6.
- 6 Critchley IA. Eradication of MRSA nasal colonization as a strategy for infection prevention. *Drug Discov Today Ther Strateg.* 2006;3:189-95.
- 7 Wisniewski, TR. Comparison of Bio-Rad MRSA Select Agar with BBL ChromAgar for MRSA Nares Swab Surveillance Cultures in VISN 12. *ASM2008;C-130.*
- 8 Nahimana I, et al. Evaluation of three chromogenic media (MRSA-ID, MRSA-Select and CHROMagar MRSA) and ORSAB for surveillance cultures of methicillin-resistant *Staphylococcus aureus*. *Clin Microbiol Infect.* 2006;12:1168-74.
- 9 Bode et al, "Preventing Surgical-Site Infections in Nasal Carriers of *Staphylococcus aureus*", *NEJM* January 2010

For *In Vitro* Diagnostic Use.

CORPORATE HEADQUARTERS

904 Caribbean Drive
Sunnyvale, CA 94089 USA

TOLL FREE 1.888.336.2743
PHONE 1.408.541.4191
FAX 1.408.541.4192

EUROPEAN HEADQUARTERS

Vira Soleih
81470 Maurens-Scopont France

PHONE 33.563.82.53.00
FAX 33.563.82.53.01

www.Cepheid.com

