The overall infection rate in this study was 3.6% (106 of 2944 patients), and the mean operation time was 1.2% (30 of 2944). The mean age of patients with post-operative infection is 50.2 years (25th-75th interquartile range: 41.5-62 years). There were no significant differences with regard to age, gender, or ASA classification between patients with superficial versus deep infections (Table 1). One hundred and ten of the 106 infections occurred within 90 days of surgery (94.3%) at a median of 22 days (25th-75th interquartile range 14-31). All 60 of the infections that occurred after 90 days were deep infections that involved an implant, and occurred between 90 and 365 days (25th-75th interquartile range 124.5-313.5 days). With regard to risk factors, increased surgery time (p=0.02) and presence of Charcot osteoarthropathy (p=0.04; OR 6.0) were significant for infection >90 days (Table 2).

DISCUSSION

Prevention and treatment of SSI have, appropriately, received a significant amount of research attention. To date, these areas have included evaluating effectiveness of various pre-operative skin prep solutions1-3. Usage of topically applied antibiotics, such as vancomycin powder4-6. Various dressings, including hydrogels, are also being studied. Studies have found that perioperative glucose levels >200mg/dL are associated with increased infection rates7 and that, diabetics have a higher incidence of SSI in the foot and ankle surgery population8. Length of surgery has also been shown in multiple studies to be associated with increased risk of developing surgical site infection9-16. In this study increased surgery time was also found to be associated with an increased risk of developing superficial surgical site infection (p=0.02). This may be secondary to longer procedures involving increased amounts of hardware, need for more extensive dissection, and may, at least in this patient population, align with patients undergoing Charcot reconstruction.

With regard to our data, the overall infection rate of 3.6% is consistent with previously reported data14,15,16. Of these, 71 (67%) were classified as superficial and 35 (33%) as deep. One hundred of the 106 infections were identified with infection occurring in <90 days (85%) with OR of 6.0. This demonstrates that 94.3% of SSIs present during the post-operative global period of 90 days. Our standard practice for all post-operative patients is to routinely follow them at 1 week, 3 weeks, 6 weeks, 9 weeks and 12 weeks post-procedure. Additionally, and more frequent, follow-up is performed if necessary. Developing a protocol similar to this one in one’s own practice will allow for appropriate tracking and identification of the majority of post-operative infections.