

Introduction

Local burn wound care promotes healing and limits wound progression. Topical delivery of antibacterial agents is typically incorporated and is an essential component of burn wound therapy. The goal of this therapy is to prevent the infection effectively and promote the healing process. A poorly treated wound can result in scarring or even sepsis and multi-organ dysfunction in severe cases. Topical SSD cream has been the treatment gold-standard for initial local care in partial thickness or full thickness burns. Existing SSD products are usually a 1% cream. Due to immediate burst release of the drug into the exposed areas, application is relatively frequent (usually twice daily). However, it remains unknown whether twice-daily SSD dressings are superior to once-daily.

Objectives

To evaluate whether a once-daily or twice-daily application of SSD impacts burn wound healing outcomes.

Materials and Methods

Our institution maintained a twice-daily dressing change standard of care until 01/01/2019. Patients admitted after that date had their dressing changed once daily. Our goal is to review outcomes for 75 patients before the change-of-practice and 75 patients after the change. Our main outcomes recorded are wound infection, average pain scores, average daily narcotic requirements and length-of-stay.

Results

Preliminary results of 45 pre-change-of-practice and 45 post-change-of-practice patients showed slightly better outcomes in the pre-change-of-practice group. The wound-infection rates were the same for both groups (pre=6.7%, post=6.7%), average daily pain-levels for the post-change group were slightly higher (pre=5.2, post=5.5) [Figure 1], hospital-related complication rates (unrelated to wound care) were higher pre-change (pre=11.1%, post=8.9%), and length-of-stay, was longer in the pre-change group (pre=11.8, post=7.6) [Figure 2]. Further statistical analysis of the results, particularly in the distribution of burn type, age, and burn depth showed no discrepancy and a generalized decreased length-of-stay with once-daily SSD dressing change [Figure 3].

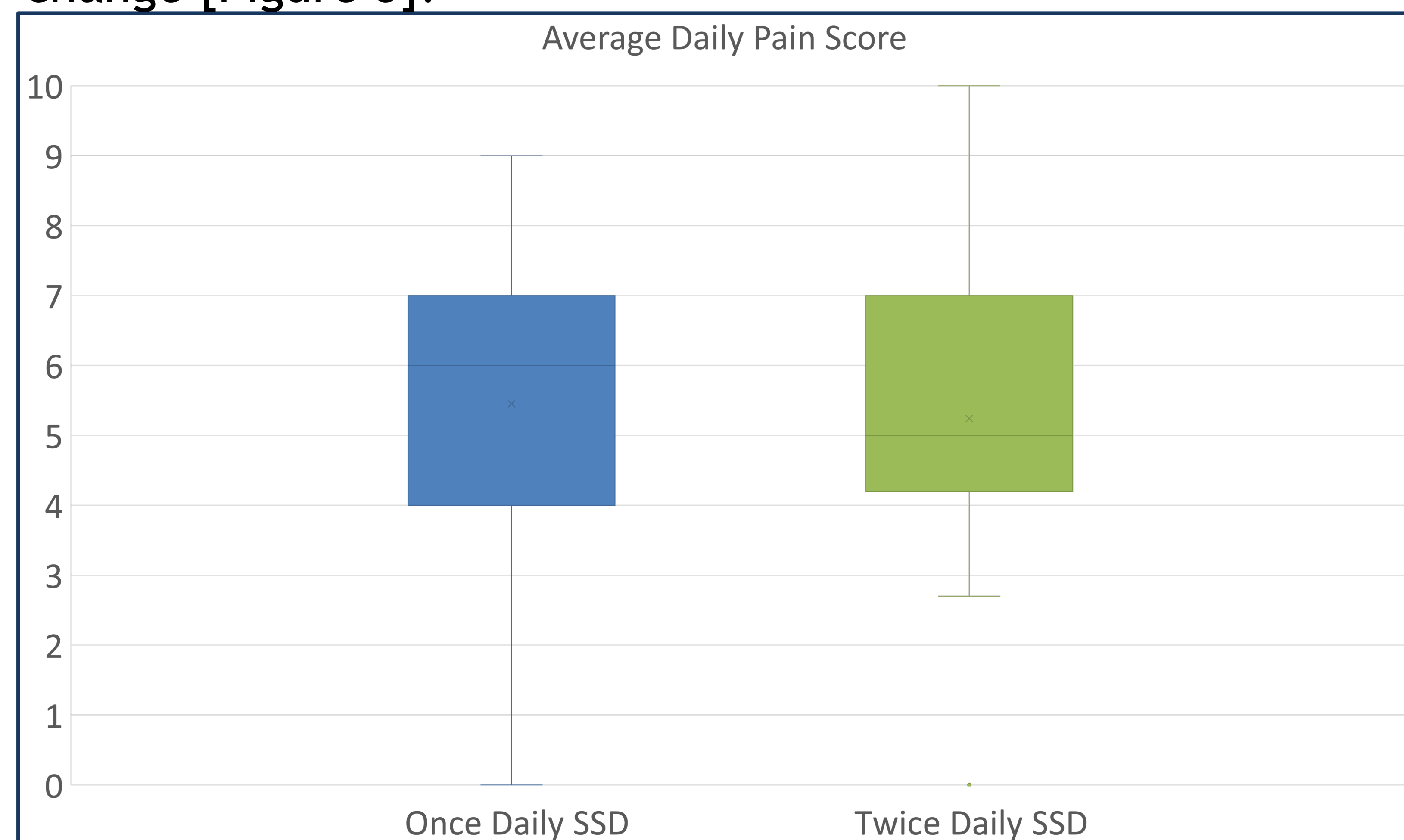


Figure 1 – Average Daily Pain Score
 The difference is negligible and not statistically significant

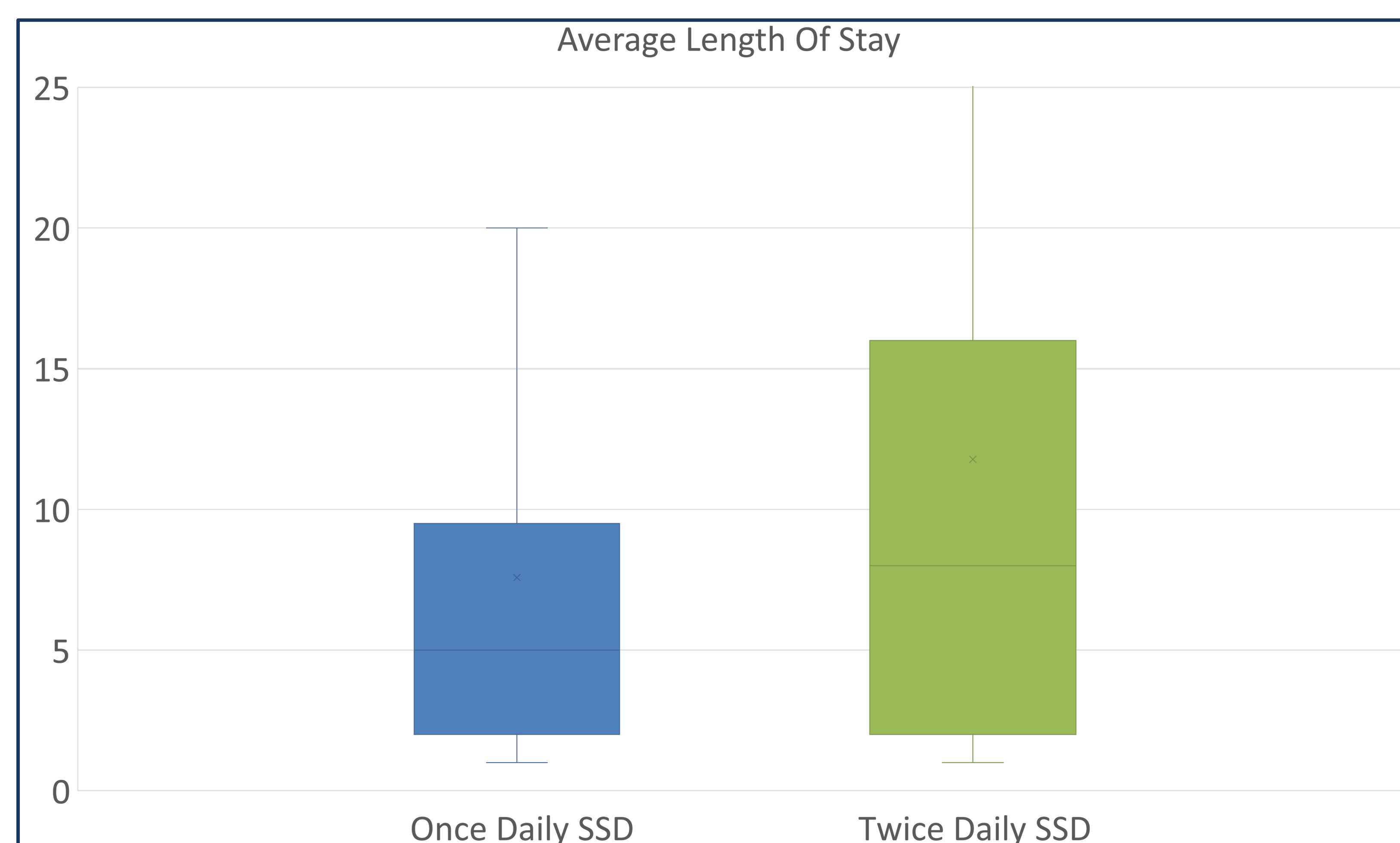


Figure 2 – Average Length of Stay

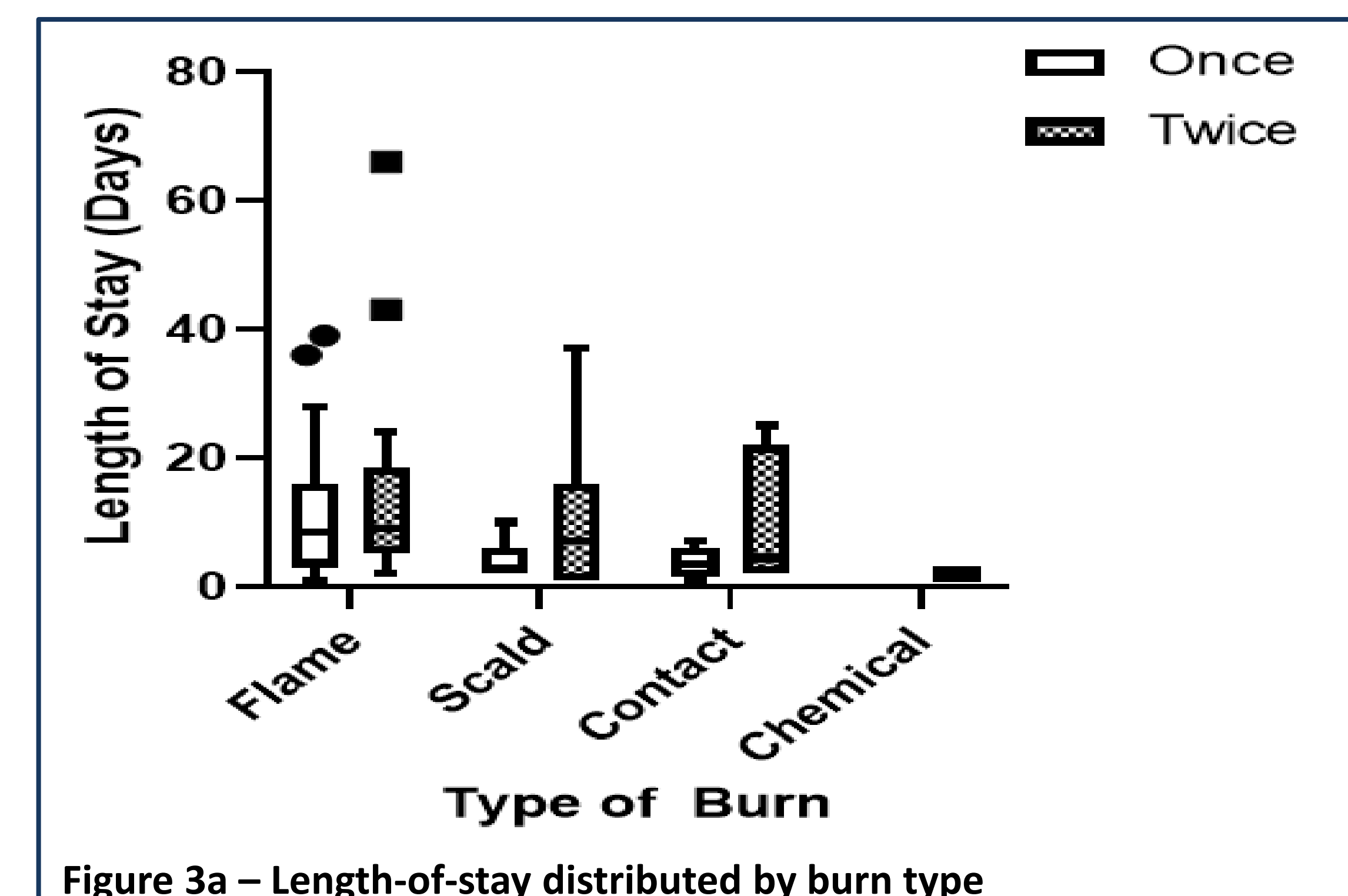


Figure 3a – Length-of-stay distributed by burn type

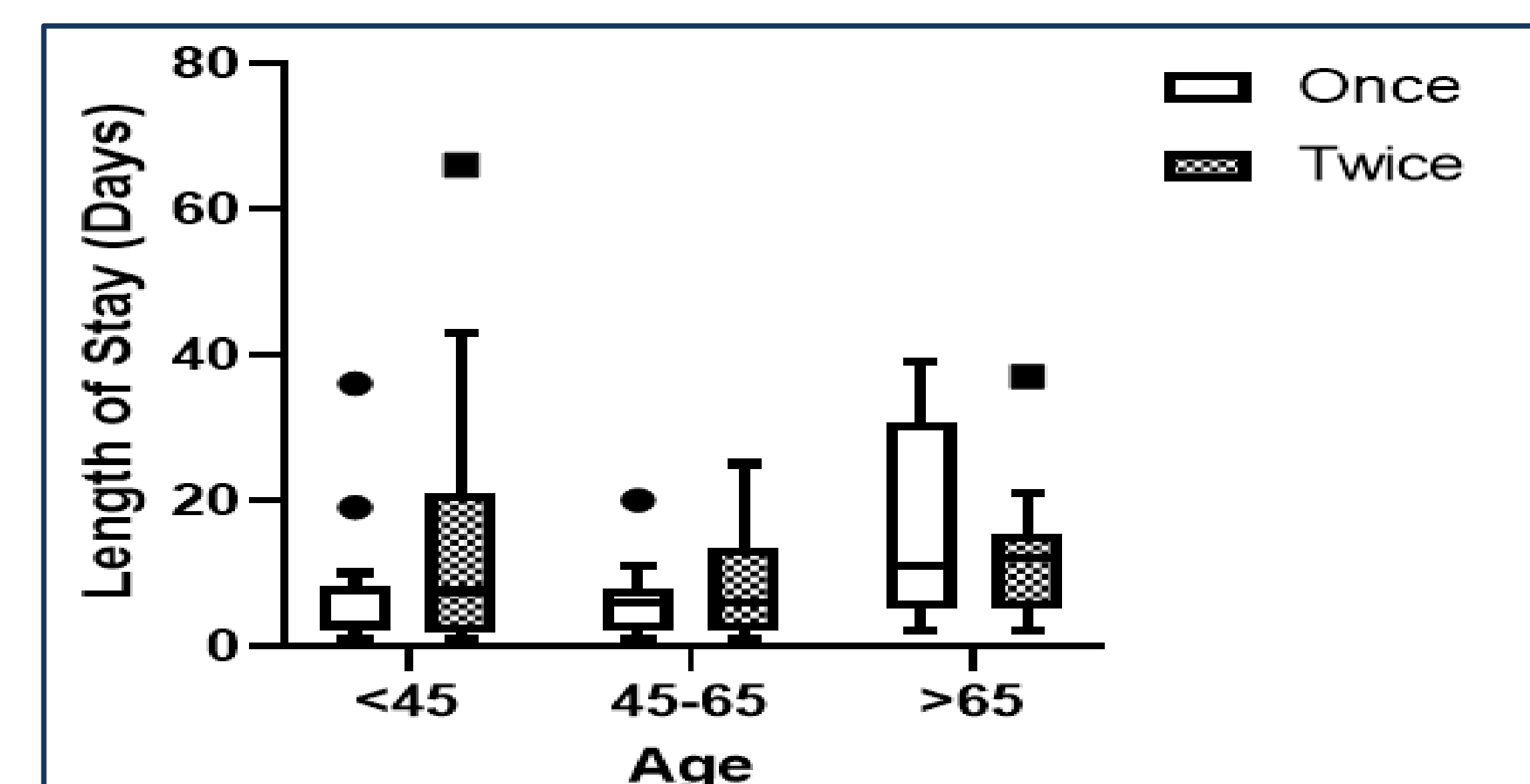


Figure 3b – Length-of-stay distributed by age

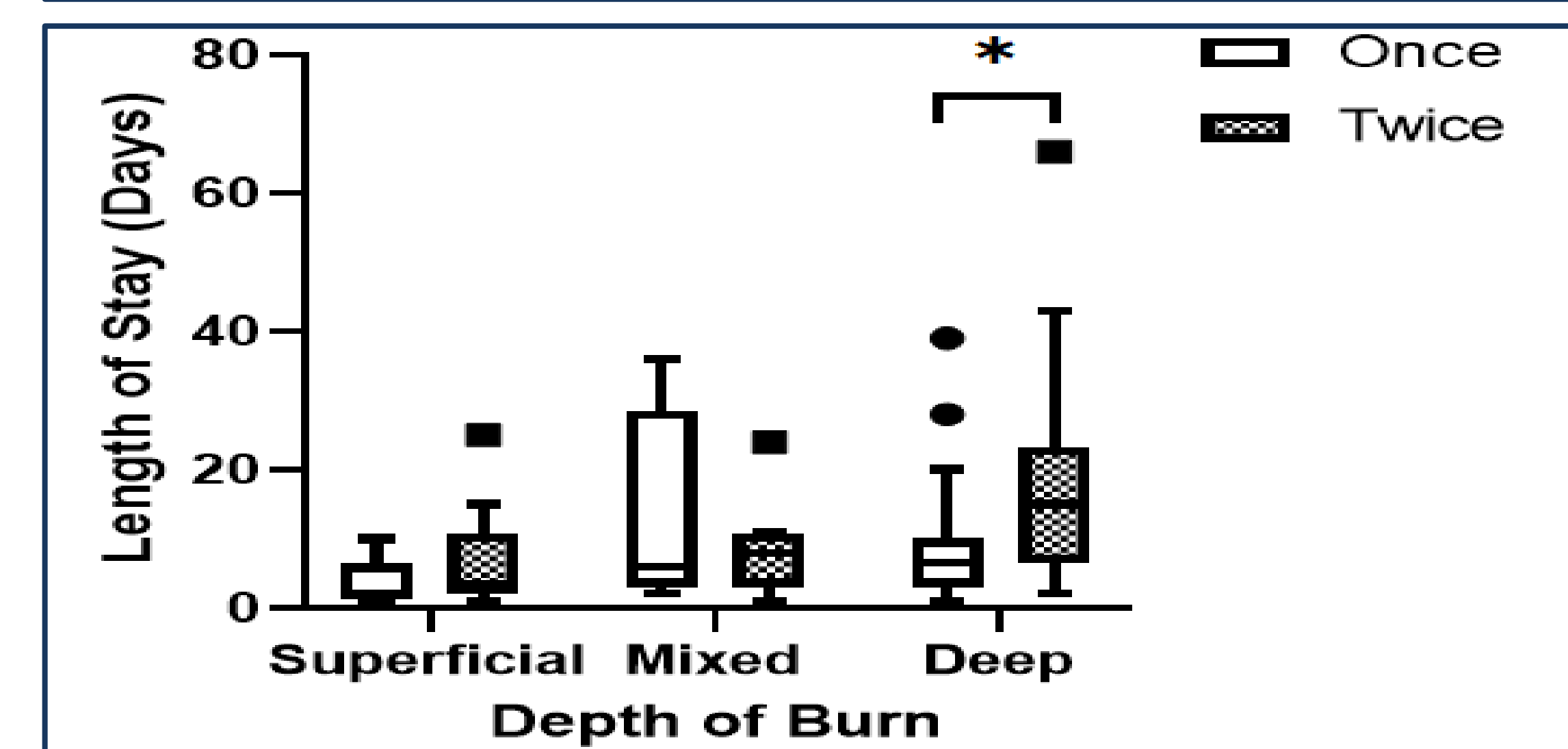


Figure 3c – Length-of-stay distributed by burn type

Conclusion

Preliminary results show that a twice-daily dressing change of SSD in burn wounds has a no impact on wound outcomes. However, it is associated with a decreased length-of-stay. Further patient review will shed more light on the significance of the results, but initial review warrants a need for further investigation. A decreased length-of-stay means reduced medical expenses for the patient and the hospital. If the difference in wound outcomes is negligible or statistically insignificant, changing the standard-of-care to once-daily could prove beneficial.