Several surgical approaches exist as standard of care in spinal surgery. With regard to the posterior lumbar spine, we present the post-operative rate of lumbar seromas in 27 patients who underwent lumbar decompression and dynamic spinal stabilization. This paper presents the results obtained from a prospective randomized clinical IDE research trial, and the rate of post-operative lumbar seromas at two clinical trial sites. Each site performed implantation of the same dynamic device using a single midline extrafascial (SME) lumbar incision or a modified muscle-sparing paraspinous (MMSP) lumbar incision as described in SAS Journal article, Winter 2008.2:40-42, Anand N. et al. Cosmetically and historically the SME has been preferred. We have indentified a higher post-operative rate of lumbar seromas with a SME incision and thus prefer MMSP incision.

**Methods and materials:** Each clinical site reported the number of lumbar seromas encountered in post-operative randomized dynamic stabilization patients. Seromas were considered significant when their persistent protuberance (approximately 30cc) impacted activities of daily living or clothing/brace wear and remained or enlarged on subsequent examination. 27 patients were reviewed, 16 SME incision and 11 MMSP incision. Site A used an SME incision while Site B used an MMSP incision. Total postoperative follow-up was 2 years.

**Results:** The total number of sterile lumbar seromas was 4 out of 27 patients or 15%. Of those patients, none required removal of the implant. 3 required percutaneous drainage, and 1 required irrigation and debridement with wound vac application. There were no seromas in the MMSP group B. In the SME incision group A 4 had seromas or 25%. Of those patients, none required removal of the implant. 3 required percutaneous drainage. While these findings are not statistically significant, we believe they are clinically relevant.

**Conclusions:** The authors believe that the MMSP incision is superior compared to SME incision for placement of dynamic stabilization devices. Incision length is longer with the SME to achieve lateral retraction, creating a large extrafascial subcutaneous pocket. Percutaneous Arrow® catheter drainage is one method that can be used in the management of SME related seromas (Figure 1). However, the MMSP incision allows for less aggressive dissection laterally thereby lessoning the risk of post-operative seroma formation. Further, the MMSP incision follows a natural cleavage plane through paraspinal musculature allowing for less muscle damage.
[Arrow (TM) Catheter drainage of a lumbar seroma]