Wound Closure Following Hip Fracture Surgery: Subcuticular Sutures or Staples? (Audit Loop)

Mustafa Javed, Panos Souroullas, Grace White, Andrina Lampard, David Powell
York District Hospital

Introduction: Hip fracture surgery is not infrequently complicated with wound leaks and infections. There is anecdotal evidence that staples use for wound closure following hip fracture surgery is associated with increased risk of superficial and deep wound infection when compared to subcutaneous sutures.

Aims: To audit various techniques used for wound closure following primary hip fracture surgery. To measure the complications rate associated with these techniques and to complete the audit loop to assess the impact of change after implementing the recommendations of original audit.

Materials and Methods: Audit loop via prospective case notes analysis of patient undergoing hip fracture surgery at York District Hospital.

Results: In initial audit (n=47) 57% of wounds were closed with staples and 42% were closed with subcutaneous sutures. In the re-audit group (n=20) only 10% wounds were closed with staples and 85% were closed with sutures. The complications like wound leak were significantly higher with staples use in the initial audit with 63% of wound leaking at week 1, 26% at week 2 and 11% at week 3. In the same audit 20% wound were leaking at week 1 in suture group. In the re-audit group this was reduced to only 6% of wound leaks at week 1 with sutures and majority of wounds (95%) did not leak. Similarly, antibiotics use was 18% in the initial audit and was 17.6% in the re-audit group mostly in week 3 possibly due to infections other than wound. Surgical re-intervention was required in 26% of cases with staples use in the first audit. It was reduced to 6% with sutures use in the re-audit group.

Conclusion: The high complication rate including wound leak, need for antibiotics and re-interventions like management of wound dehiscence, washout and revision surgery was significantly higher in the staples group compared to suture group in the initial audit. This led to a change in practice whereby the hip fracture surgery wound were closed with subcuticular sutures. The re-audit showed that these complications were reduced following this change and the wounds were less leaky at week 1, 2 and 3, required less antibiotics for wound infection and majority did not require further surgery. Since then this has been adopted as local guidelines as this audit loop has showed improved quality and patient safety following the shift toward subcuticular sutures.

****************************************************************************************