Monocryl

- Intradermal Scalp Closure Using Barbed Suture in Cranial Tumor Surgeries: A Technical Note
- Octyl-cyanoacrylate skin adhesive is effective for wound closure in posterior spinal surgery without increased risk of wound complications
- Skin closure in vascular neurosurgery: A prospective study on absorbable intradermal suture versus nonabsorbable suture
- Anchoring depth electrodes for bedside removal: a "break-away" suturing technique for intracranial monitoring
- Marked reduction in wound complication rates following decompressive hemicraniectomy with an improved operative closure technique

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The closure with intradermal sutures alone in craniotomies is as safe as the traditional skin closure with nylon sutures, besides eliminating the need for suture removal and providing a cosmetic advantage [1)]

A looped, barbed 3-0 Stratafix Monocryl suture (Ethicon Inc, Somerville, New Jersey) is anchored in the galea at 1 end of the incision. The loop obviates the need for any knots in this step. The suture is then run in a subcuticular manner at the dermal–epidermal junction, approximately 1 mm below the skin surface. At the apex, a final bite is taken out of the incision, and the suture is cut at the skin [2)]

Incisions in patients who undergo posterior spinal surgery can be safely and successfully closed with subcuticular Monocryl™ and CSA without increased risk of CSF leak, wound infection, or dehiscence. Rates of these complications were similar between the study population, a small subset of patients treated with traditional closure techniques, and those in the established literature.

CSA is a safe method to achieve ultimate skin closure in patients who undergo posterior spinal surgery without increased risk of wound-related complications, even in those patients undergoing intradural procedures [3)].

Although decompressive hemicraniectomy with dural expansion and bone flap removal is a potentially life-saving procedure, concerns remain regarding the morbidity associated with this approach. Sughrue et al. noted the high rate of wound complications resulting from this technique, often

associated with cerebrospinal fluid (CSF) absorption problems. They present the experience with an improved technique for wound closure after unilateral decompressive hemicraniectomy with a wide cruciate durotomy. Data for all patients who underwent a decompressive hemicraniectomy from October 2005 to October 2009 were gathered prospectively. Starting in mid-2008, they adopted an alternate approach to operative wound closure, which involved skin closure with a running Monocryl absorbable stitch, and prolonged subgaleal drainage. They compared the rates of wound complication using this approach with those obtained with earlier conventional closure techniques. Over a 1 year period, they dramatically reduced the rate of wound complications in patients undergoing hemicraniectomy using this (Monocryl technique, 0% (n=29) compared to other techniques, 35% (n=98), chi-squared [$\chi(2)$] $p<0.001$). Patients closed using this technique experienced markedly reduced rates of wound infection ($p<0.01$), and CSF leak ($p<0.05$), compared to other, more standard, techniques. Thus, attention to the closure of hemicraniectomy wounds can markedly reduce the rate of wound complications, thus improving the risk-to-benefit ratio of this procedure [4].

1)
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2)
Buttrick SS, Eichberg D, Ali SC, Komotar RJ. Intradermal Scalp Closure Using Barbed Suture in Cranial Tumor Surgeries: A Technical Note. Oper Neurosurg (Hagerstown). 2018 Jul 1;15(1):E5-E8. doi: 10.1093/ons/opx195. PMID: 28962024.
3)
Howard BM, Eshraghi SR, Holland CM, Refai D. Octyl-cyanoacrylate skin adhesive is effective for wound closure in posterior spinal surgery without increased risk of wound complications. Clin Neurol Neurosurg. 2014 Oct;125:137-42. doi: 10.1016/j.clineuro.2014.07.026. Epub 2014 Aug 2. PMID: 25128654.
4)
Sughrue ME, Bloch OG, Manley GT, Stiver SI. Marked reduction in wound complication rates following decompressive hemicraniectomy with an improved operative closure technique. J Clin Neurosci. 2011 Sep;18(9):1201-5. doi: 10.1016/j.jocn.2011.01.016. Epub 2011 Jul 12. PMID: 21752652.