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Adding ears to pediatric cranial dressings

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Cultivation of the human element is a critical component of any surgical practice. Maintaining a lighthearted environment during the perioperative period is critical in minimizing emotional trauma, especially in our younger patients. Executing safe and appropriate perioperative care during this period presents a unique challenge in this age group for the entire care team.[1 2] Special attention is paid to the emotional component in this age group, as there can be lasting effects on patients both physically and cognitively.[3] We present a method of dressing craniotomies that we employ to help maintain a light-hearted perioperative environment that our colleagues in other centers may not be familiar with.

At the culmination of the procedure, dressings are applied. We typically use antibacterial ointment, gauze and a light headwrap, applied in a sterile fashion. Next, we add a second covering so that we can make ears out of the dressing, as described further.

We then place a tubular mesh dressing as a final layer; we use X-Span Premium Tubular Dressing Retainer Size 6 (Albahealth, Rockwood, Tennessee), but other commercial products are available. However, instead of cutting the mesh to the size of the patient's head, we gather twice the length needed. We place the dressing over the patient's head and double it up as shown in figure 1. Then, equidistant from the midline on either side and roughly halfway between the nasion and the inion, we make a small opening on the top layer of the mesh only. Then, the bottom layer of mesh is pulled through and secured at the base with silk ties so that the newly formed 'ears' do not retract back. Please note that we do not use this type of dressing for patients who are missing a section of the skull (eg, following a craniectomy or trauma) due to intracranial pressure concerns.

Pediatric neurosurgical patients are a niche patient population with a number of special considerations in comparison to their adult colleagues. Numerous studies have shown the lasting physical and cognitive effects of brain surgery on children. For example, in pediatric neuro-oncology patients—irrespective of the type of tumor—there are lasting neuropsychiatric effects.[4 5] Higher-level cognitive skills are often affected, leading to deficits in core functions (eg, attention, memory and processing).[4] Coordinating suitable care with the developmental stage of the patient in mind can help to improve the patient experience. Additionally, pediatric patients with brain tumor may develop depression, anxiety and psychosocial adjustment issues as they progress into adulthood.[6] Similar effects are seen in head-injured children, though this is a continuing area of research.[7 8]

Several factors may play a role in mitigating these long-term effects. Individual patient resilience, which can vary greatly between patients at these rapidly changing developmental stages, can play a large role. Furthermore, parental education, familial stress, improving positive coping mechanisms and access to rehabilitation (both physical and cognitive) can be benefit patients.[9] Maintaining a close physician–patient-parent relationship can help to facilitate the care of our pediatric patients beyond the immediate surgical period.

Patient satisfaction is an increasingly important metric. In the care of pediatric neurosurgery patients, parental/caregiver satisfaction with the surgical process is a surrogate measure of the quality of care delivered.[10] Attention to detail, which can be as simple as changing the dressing technique following a procedure as delicate and stressful as a craniotomy, may express the level of care and concern we share with our patients and their families in a simple, directly observable way.

Maintaining a patient-centered model is paramount to success in contemporary neurosurgery. Small gestures can convey the level of care we have taken of a child to parents and caregivers alike. While many our colleagues

Figure 1 After applying a traditional sterile dressing, a tubular mesh dressing cut to twice the length needed is obtained. (A) This is pulled over the patient's head, fully covering the scalp as shown. (B) The excess is pulled on top to form a second layer. (C) A small slit is cut through the top layer only on either side, roughly halfway between the nasion and inion, and the bottom layer is pulled through forming 'ears'. Silk suture is applied at the base of each 'ear' to keep them from retracting down. (D) Final touches are often applied.

may not have the same dressing supplies available—or may feel this is superfluous—we hope this report can demonstrate this simple technique for applying a post-craniotomy dressing to our pediatric neurosurgeons in other areas who may not have seen it before.

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