

## OP07

**Minimally invasive spring-assisted correction of sagittal suture synostosis: outcome and complications**

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**Introduction:** Numerous techniques have been described to correct Scaphocephaly. This technique responds to both the wish for smaller incisions and the need for expansion in synostosis of the sagittal suture.

**Materials:** Surgical technique entails two small incisions perpendicular to the sagittal suture. These incisions provide sufficient access to perform two parasagittal craniotomies and place two distractive springs. Patients who underwent this technique at Erasmus University Medical Center were analyzed. Patient characteristics, outcome and complications were collected prospectively.

**Results:** Between January 2010 and December 2013 82 patients were operated at a mean age of 5.7 yr. CI at presentation was 66.8 (sd 4.0) and increased to 75 (sd 4.9) postoperatively. After 1 year CI decreased to 74 (sd 3.3) and thereafter remained stable. Skull circumference increased immediately after surgery and then gradually decreased to 0.6 sd at 2 years postoperatively. One patient developed papilledema at the age of 3. Mean blood loss was 78 ml for insertion and removal of the springs. Complications: 2 dural tears, 1 needed conversion to an open procedure to close the dura, 1 CSF leakage at removal of the springs, 1 asymmetrical distraction requiring second skull remodeling and 1 wound infection for which the patients was readmitted and treated with antibiotics.

**Conclusion:** Minimally Invasive spring-assisted cranioplasty is as effective as conventional procedures. Complication rate is low with one conversion to an open procedure and one reoperation for cosmetic reasons. Postoperative Cranial Index and Head Circumference are comparable to open techniques. Longer follow-up is needed to see if this technique will prevent secondary raised intracranial pressure.