

## FP12

**Posterior skull vault expansion in craniosynostosis**

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Expanding the posterior cranial vault has become a common procedure in craniosynostosis treatment. Several techniques are currently available sharing the same goals, that is to increase the posterior volume of the skull, reduce the compression of the underlying cerebro-vascular structures, providing space for the physiological growth of the developing brain. They, however, differ for severity as well as for their rationality. Grossly, we can subdivide these techniques in three main groups: 1. gradual posterior cranial vault expansion using springs or distraction; 2. floating free bone flaps able to accommodate spontaneous cerebral expansion; 3. cranioplasty with intraoperative active fixed expansion, able to assure an immediate cranial expansion. The choice among them should be tailored on single child according to its specific need (therapeutic, e.g. the correction of a severely restricted skull or of an active hydrocephalus versus prophylactic, e.g. the prevention of cerebellar tonsils descent or to postpone the cranio-facial advancement), its age and, in particular, the type of its craniosynostosis.

These procedures have each their own advantages and drawbacks in term of efficacy and associated complications, a further reason for the careful choice of the technical option.

In this report, based on our experience at Necker-Enfants Malades, Paris, we will review the various techniques nowadays available for posterior skull expansion, focusing in particular on the less invasive and the more gradual ones.