



Free bone flaps raised without making a burr hole.

The perforators, burrs, Gigli saw have become obsolete with the author. Hundreds of craniotomies have been done by author with new method with very high degree of safety.

For draining liquid contents like in brain abscess, EVD and chronic subdural haematoma author does just a drill hole and dura is also perforated with drill bit.

For a limited entry like for stereotaxy and endoscopy author uses Karam Chand trephine with adjustable dura guard 1.5 to 2 cm in size.

For lesions which are not very big author uses trephine with adjustable dura guard which are upto 5.5 cm in diameter. Classical examples are extradural haematomas, small meningiomas, pulped temporal lobe, pulped frontal lobes. Special scalp retractor is applied to a straight incision to expose the bone for trephining (Karam Chand scalp retractor).

For bigger lesions author performs craniotomy with 1mm drill, ultrasonic cutter and fine chisel. A groove is made all around by 1mm drill just leaving thin inner table. The bone is cut little obliquely and final part is cut with a fine chisel. Drill and fine chisel, ultrasonic cutter and fine chisel or ultrasonic cutter and fine chisel are the choices for you to accomplish craniotomy this way. Since ultrasonic cutter does not rotate like drill chances of gauze or tissue being wrapped with drill tip are not there. Soft tissues are displaced rather than cut with ultrasonic cutter, therefore chances of cutting underlying dura being cut are minimum. Cost comes into play as blades of ultrasonic cutter are expensive. This method of craniotomy does not strip dura from bone edges so chances of extradural haematoma beyond edges are minimized. As the bone is lifted from one edge, dura is dissected from inner aspect of bone. This way we can have any size of flap, even across midline, over transverse sinus. As groove is drilled all around bone wax is applied to achieve haemostasis. This makes meningioma surgery as an enjoyable experience. If one is not comfortable with above method a small trephine (1.5cm) can be made at one edge of bone flap and dura can be dissected by putting a dissector through the trephined hole, but author finds that nearly unnecessary. **After experience with these methods, author does not find any indication for making a burr hole.**

The total calvarial preservation with these methods gives good cosmetic results. The posterior fossa lesions are also approached through craniotomy only.

The Karam Chand trephine and scalp retractors are google searchable.