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INTRODUCING `ROWENA&RSQUO;, A REALISTIC OPERATIVE WORKSTATION FOR EDUCATING NEUROSURGICAL APPRENTICES

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Resumen

Changes in junior doctor's hours and working practices have decreased exposure to operative neurosurgery more than ever, with training opportunities commensurately reduced. Whilst other specialities rely increasingly on simulation for part of training this isn't yet widespread in neurosurgery, mainly due to the lack of a simulator.

I have designed and had manufactured a realistic operative simulator for neurosurgery.

The unit's base consists of a plastic head and face, with realistic internal skull base anatomy. On this is fixed a plastic `cranial top', consisting of the skull vault, covered with `scalp' and lined by 'dura', complete with realistic vascular markings. Each layer is joined so as to realistically `dissect free', and the vault similarly cuts and drills like bone.

Inside is a realistic plastic brain, with a CSF filled ventricular system.

The simulator can be used to mimic a wide variety of neurosurgical procedures; including positioning in head pins, burr holes, simple and complex flaps, ventricular cannulation, ICP monitor and EVD insertion, and assembly and insertion of shunt and Ommaya reservoirs.

Once the top has been drilled, cut, sawn and screwed to destruction it is inexpensively replaced. The base is a permanent fixture, and the brains last many courses if used carefully.

It is also an ideal endoscopy simulator, something much appreciated by trainees when learning this demanding procedure.

It is MRI and CT compatible for image guidance training, and we routinely perform image guided ventricular catheterisation on our courses.

We have run twice yearly, 2 day courses using Rowena at QMC since 2012, and similar courses are run in Sheffield, Manchester, Coventry, London, and the Royal College of Surgeons of England.

A paediatric version with fontanelles and sutures is also available, and one has been used by the charity `SHINE' to educate patients and their carers about hydrocephalus.

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