



## **TRANSMISSION OF COVID-19 DURING NEUROSURGICAL PROCEDURES**

There has been concern about transmission of Covid-19 during some routine Neurosurgical operations, particularly those involving drills or endoscopes.

Like most advice in the current crisis, the following is based on a synthesis of national guidelines, published evidence, expert opinion – and common sense. It revolves around the crucial fact that Covid-19 appears to be contagious, either directly or via fomites, through droplets from respiratory epithelium – especially the upper respiratory tract. Blood is not a recognised vehicle: as was pointed out to me, if significant virus were present in blood, we would be able to do a blood test for the disease! Similarly, it does not seem to concentrate in CSF.

Thus most neurosurgical procedures to the spine and head should be safe with routine face and eye protection. This includes cranial and spinal drilling, though I think we would all be more rigorous than usual with irrigation of drills when stationary to prevent aerosol. Care would clearly be needed with anterior skull base procedures which might breach a sinus.

Endonasal procedures, by contrast, are a very significant risk. Use of debridors and drills within the nasal cavity will produce a droplet aerosol which is highly dangerous. In Wuhan, ENT surgeons are amongst the worst affected – and N95 masks did not prevent infection.

While the majority of pituitary patients present subacutely, it would be unforgivable to allow a patient to go blind during this period. With patients for whom surgery cannot be deferred, consideration should be given to alternatives to endoscopic surgery:

1. Craniotomy
2. Microscope based trans-sphenoidal surgery, with a submucosal approach and entry to the sella using non-drill techniques. Available PPE should be employed BY ALL THEATRE STAFF and care taken with nasal secretions.

If these are unavailable in a particular unit, or there is insufficient experience, networking should be employed. Preoperative Covid-19 testing should be employed where possible.

The small number of patients presenting in an endocrine crisis should be managed medically if at all possible. If there is no alternative to trans-sphenoidal surgery, it is the strong feeling of the SBNS that this should be discussed at a national level and I can co-ordinate this.

**Summary: From the information currently available, routine cranial and spinal cases are safe to perform. Endoscopic endonasal surgery is NOT safe and should be avoided.**