

Letter: Transmission of COVID-19 During Neurosurgical Procedures—Some Thoughts From the United Kingdom

To the Editor:

While in every country we should be limiting surgery to urgent procedures, patients will still need surgery. There has been concern about the transmission of COVID-19 during neurosurgical operations, particularly those involving drills or endoscopes.

Like most advice in the current crisis, the following is based on a synthesis of national and international guidelines, published evidence, expert opinion, and common sense; similarly, like most, it may be subject to change as we learn more about this devastating illness.

If local circumstances permit, the Society of British Neurological Surgeons (SBNS) strongly advocates personal protection equipment (PPE) for all procedures during this time. However, COVID-19 appears to be principally spread, either directly or via fomites, through droplets from respiratory epithelium—especially the upper respiratory tract. Blood is not at this point a recognized vehicle; 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 the cerebrospinal fluid.

Thus, most neurosurgical procedures to the spine and head should be safe with routine face and eye protection if PPE is unavailable. This includes cranial and spinal drilling, though we should all be more rigorous than usual with the irrigation of drills to prevent aerosol formation. Care would clearly be needed with anterior skull base procedures, which might breach an air 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.

The majority of pituitary patients present subacutely, and can hopefully wait, but 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 nondrill 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 when available.

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.

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.

Disclosures

The authors have no personal, financial, or institutional interest in any of the drugs, materials, or devices described in this article.

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