

## Measuring external ventricular drainage trajectory using smartphone: A case report

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### ABSTRACT

**Summary:** External Ventricular Drainage (EVD) is usually prescribed for either intracranial (ICP) monitoring or management of hydrocephalus and it can be a life saving procedure. Nonetheless, it is a blind procedure and misplacement can occur in 12-44% of cases. Although few modern guided techniques have been described, it is mostly requiring expensive equipment and time consuming. Herein we described a technique of measuring EVD trajectory angle using smartphones which may further develop for a novel smartphone-guided EVD insertion technique. We had a 56 years old lady who had a sudden loss of consciousness. Her CT Brain showed generalized SAH and hydrocephalus secondary to ruptured cerebral aneurysm. EVD was indicated for both treatment of hydrocephalus and ICP monitoring. The EVD insertion procedure was done in the usual manner. The duration of surgery was similar to an average of 30 minutes. However, prior to tapping into the ventricle, the catheter trajectory was measured using a smartphone. A clinometer app has been used by utilizing its bubble level features and the smartphone was placed perpendicular to the catheter. This feature allows us to measure the trajectory angle in both the coronal and sagittal plane in one shot. Postoperative CT scan was reviewed to check the trajectory angle. We found that the measurement was relatively accurate with deviation of 1° in the coronal and 5° sagittal plane. However, a proper validation study should be done to confirm this finding.

## Facial nerve palsy as a presentation of COVID-19 in a child: A case report

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### ABSTRACT

**Summary:** The COVID-19 pandemic has affected millions of people with a wide range of presentations from asymptomatic to multiorgan failure, including neurological presentations. Facial nerve palsy is a commonly encountered presentation, however a rare presentation of COVID-19. Decio, et al has reported facial nerve palsy in a 15 month old with positive serological testing for COVID-19. We report a rare case of facial nerve palsy as a clinical presentation of COVID-19 infection. A 9 years old boy was admitted in March 2022 to Hospital Sungai Buloh; designated National COVID-19 centre, was referred to the Otorhinolaryngology team for a sudden onset of right sided facial nerve palsy as the main symptom on day 8 of illness of COVID-19 infection. He was treated with standard treatment of tapering dose of oral prednisolone, eye lubricant, eye patch and physiotherapy. The child was followed up in the outpatient clinic in 3 weeks interval revealing partial recovery of the palsy. As seen in this case, facial nerve palsy can be the main presentation of COVID-19 in children making its worthwhile to add this symptom into the spectrum of neurological presentation of COVID-19 and to screen children presenting with facial nerve palsy for COVID-19 in the current epidemiology context.