

Oral Presentation

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## Shunt revision after major abdominal surgery in patients with Spina Bifida

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### Clinical background

Despite the increasing popularity of endoscopic third ventriculostomy (ETV) to treat hydrocephalus in patients with neural tube defects (NTD's) the majority of patients with open NTD's still have ventriculo-peritoneal (VP) shunts in-situ from an early age. Many of these patients progress to need abdominal surgery for bladder problems. No data currently exists as to the risk of shunt dysfunction after abdominal surgery.

### Materials and Methods

Retrospective study of all patients attending the North West Regional Spina Bifida clinic. Patients with VP shunts who had had abdominal surgery after shunt insertion were identified from our Regional NTD Registry. A case note review was then undertaken to establish the incidence of shunt dysfunction within the group.

### Results

There were 39 patients who fitted the criteria for the study and whose hospital records were available for review. Of these 9 had shunt dysfunction within 3 months of surgery requiring surgical intervention (23%). A total of 57 abdominal operations had been performed on this patient group whilst a VP shunt was in situ giving a 15.8% risk of shunt malfunction after surgery. Five of the nine patients had a new VP shunt inserted, one had an ETV and 3 had ventriculo-atrial shunts inserted. Five of 15 patients having ileal loops urinary diversions had shunt malfunction compared to just 1 of 24 patients having a bladder augmentation (4.1%) ( $P = 0.018$ ). One patient had a shunt malfunction after a vesicostomy, one after a ureteric reimplantation and one after an ACE procedure. For 6 of the 9 patients having shunt malfunction after surgery this was their second or subsequent abdominal operation compared to 12 of 30 not having shunt problems (ns).

The timing of shunt dysfunction was 3 days to 8 weeks after surgery.

### Conclusion

Shunt malfunction is common after major abdominal surgery in patients with NTD's and VP shunts. Patients and families need to be aware of this. More research is needed looking into the reasons for shunt dysfunction after different interventions