

## APPENDIX 3

### PRE AND POST OPERATIVE PROTOCOLS FOR VVF CARE

#### Pre-operative investigations before fistula repair (Important ones in bold.)

<b>Haemoglobin level</b> and blood group.	<b>HIV test</b>
<i>Routine pregnancy test:</i> History of menses and sexual activity can be misleading.	<i>Malaria:</i> Blood film or Rapid Diagnostic Test.
<i>Blood sugar:</i> Diabetic patients have an increased risk of breakdown of the repair. This is not a routine test but should be considered in repeat repairs.	<i>Renal function:</i> If available, serum creatinine and urea levels are useful especially if there is hydronephrosis but not available in most centres.
<b>Ultrasound of both kidneys</b> to look for hydronephrosis or renal atrophy. <ul style="list-style-type: none"> <li>• <i>VVF:</i> This can be very useful if you cannot find one of the ureters during the surgery.</li> <li>• <i>Ureteric fistula:</i> Hydronephrosis often accompanies ureteric fistula which occasionally may be present along with a vesico-vaginal fistula (VVF). The urine leaking from the VVF makes the ureteric fistula difficult to diagnose until after the VVF is closed. A significant number of postsurgical VVFs have an associated ureteric injury.</li> </ul>	
<i>Urine:</i> Routine urine culture or microscopy is not necessary as results are misleading due to contamination. Because urine drains continuously, VVF patients rarely get urinary tract infections pre-operatively unless there is a stone present. However, in endemic areas, it is worth screening for schistosomiasis and if positive, the urine should be rechecked after treatment before any surgery.	

#### Pre-operation Day routine

- Full blood count
- Nil by mouth after midnight.

#### Operation Day: Routine before operation

- Start intravenous fluids at least 1 hour before surgery: Ringer's Lactate or Normal saline.
- Prophylactic antibiotics according to hospital protocol.

#### Operation Day Post-operative routine (After return from Operating room):

- *In Recovery room:* Check blood pressure and pulse every 15 minutes for 1 hour. If stable then, transfer to ward.
- *On the ward:* Check blood pressure and pulse ½ hourly x 2 hours, then hourly x 4 hours, then every 4 hours.
- *Intravenous fluids:* Either Normal Saline or Ringer's Lactate 100 ml/ h. Continue until the morning of Day 1. May take oral fluids after 6 hours if tolerated.
- *Catheter care:* The catheter or tubing must not be twisted and the patient must not be lying on it. Make sure the catheter is above and not under her leg. Empty the urine bags every 2 hours and monitor urine output 2 hourly. See box below if urine not draining.
- Check for vaginal bleeding. If bleeding, check vitals: blood pressure, pulse, respiratory rate, oxygen saturation and inform the surgeon.

#### Post-operative Day 1 Routine and later

- Oral fluids of 3 litres/ day and normal diet. If drinking well, remove intravenous fluids.
- Remove the vaginal pack and clean the external perineal area 1- 2 times/ day while the Foley catheter is in place.
- Check the 3 D's as in box. Empty urine bags 4 hourly on day 1 and 2. From day 3 the patient can empty the bag herself when it is half-full but show to the nurse first.
- Observations: 4 hourly on Day 1 then 8 hourly from day 2 if stable.



**Tip!** If you suspect a blocked catheter, raise the drainage tube above the level of the patient's abdomen and check for free flow. If there is free return of urine to the bladder, catheter blockage is unlikely.

**All Post-Operative Days: Check the 3 D's:**

**Drainage: If no urine draining** through the catheters at any time or the patient has suprapubic pain:

- Check the Foley catheter and tubing for twists or kinks, which can block urine flow.
- Flush Foley catheter with 10 ml saline three times and withdraw the fluid after each flush. The fluid must go in and come back out. If you cannot flush the catheter or you cannot withdraw the fluid, the doctor should change the catheter preferably in lithotomy position in theatre.
- After flushing, connect the urine bag and observe the flow. Inform the doctor if still no urine or just blood.
- If there are visible clots with flushing then keep flushing until no clots are visible. Call doctor if clots persist.
- If ureteric catheters are draining well but little or no urine in the Foley, just flush the Foley with 10 ml.
- If no output in ureterics but good output in Foley, just flush the ureterics with 2 ml and observe.
- If no output in ureteric catheters and little or no output in Foley, inform the doctor.

**Dry: If urine is leaking** at any time, check that the Foley catheter is not blocked by flushing it. If it is not blocked, then just observe the patient.

**Drinking** well to prevent blockage of the catheter: The colour of the urine should be clear like water.

**If bleeding vaginally anytime:** If doctor is not available immediately: Place a tight pack in vagina. Put up intravenous fluids (Normal Saline). Elevate foot of bed. Monitor vital signs and inform the doctor.

**If fever after day 1:** > 38 degrees C or > 100 degrees F: Exclude malaria. Check for urinary infection.

**The day the catheter is due out** (according to post-operative instructions): Do a dye test.

- If healed and dye test negative, remove catheter.
- If dye test positive, leave catheter in for 2- 4 more weeks and repeat the dye test before removal.

### **PAD TEST PROTOCOL**

This is a way of objectively measuring how wet or dry the patient is after VVF repair or any operation for stress incontinence. It is best done 2-3 days after catheter removal as some leakage is common soon after the catheter is removed. You need a nurse, a pad and a kitchen weighing scale. It is often easier to do several patients at the same time.

- Provide the patient with a pad that is weighed before she puts it on. Also weigh the container (e.g. examination glove) to be used to put the pad into.
- Ask the patient to drink 500 ml water within a short period (no longer than 15 minutes), then sit or rest for a few minutes.
- She should walk around and void when she feels the urge (whilst taking caution not to wet the pad when voiding).
- After an hour ask her to come back to the nurse who weighs the pad again and records the change of weight. Weight gain in grams = urine loss in ml. An increase of:
  - 1 to 10g represents mild incontinence
  - 11 to 50 g represents moderate incontinence
  - > 50 g represents severe incontinence.
- NOTE: If the patient feels that her pad is soaked, she should come back to the nurse who will replace it with a new pad and place the old pad in an air-tight container.
- NOTE: If the patient needs to void, she should come back to the nurse. If she cannot make it back before voiding, tell her to remove the pad before she voids and bring the pad back to the nurse after her void.