First Steps in VVF Surgery

Brian Hancock

This an abbreviated version of the manual
published in 2005 by the
Royal Society of Medicine
(see references at the end)

The Vesico Vaginal Fistula

1-2 million in Africa

Wet for life.

High skill
Low tech surgery

Dramatic results

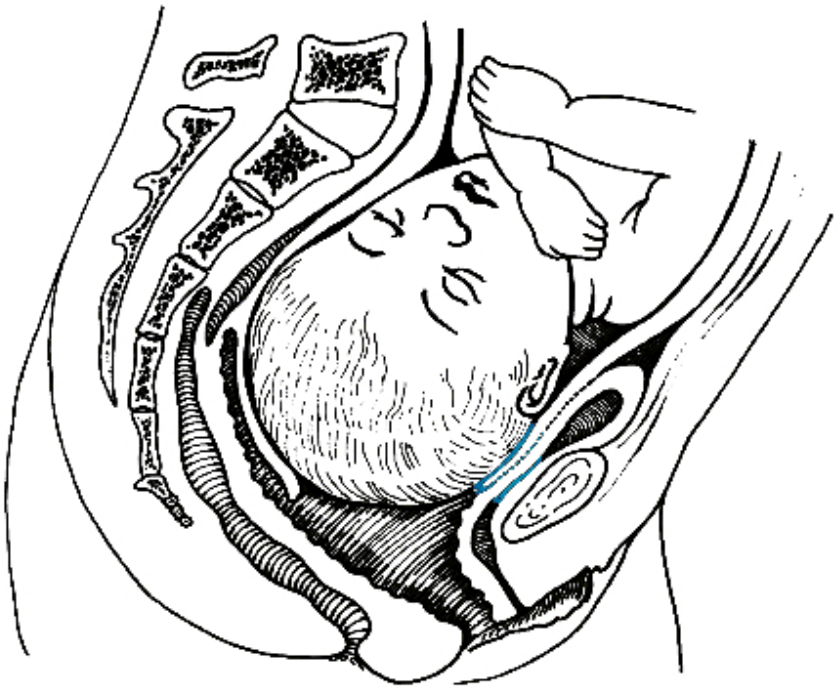
The Cause

Unrelieved obstructed labour

Urban poverty.
Lack of free medical care.

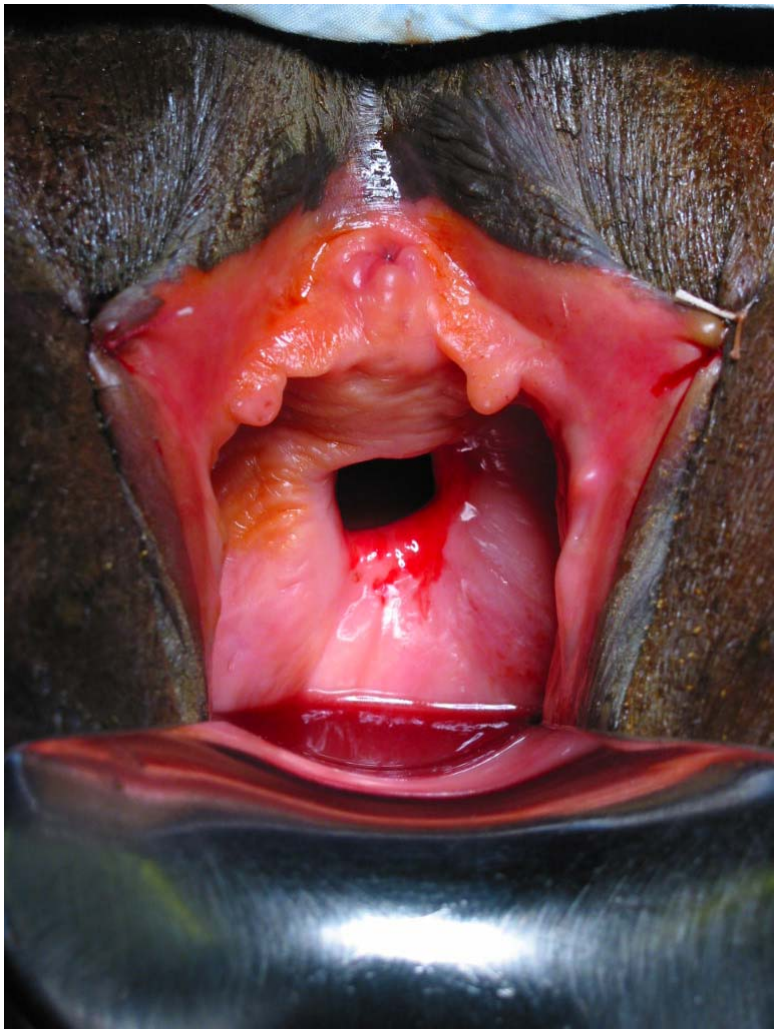
Remote dwellings.
No transport.
No hospitals

Unrelieved Obstructed Labour

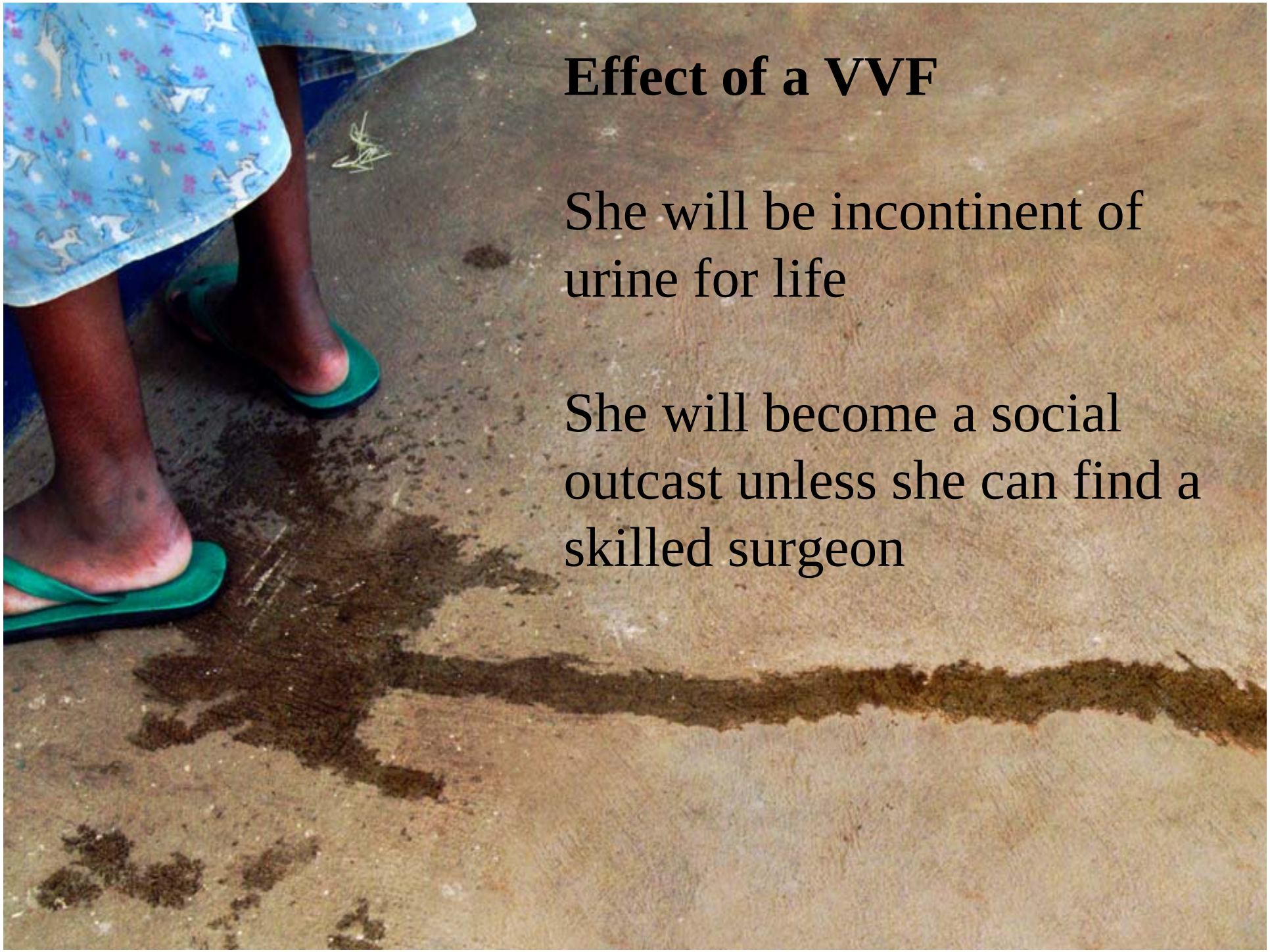


Prolonged pressure of the babies head crushes the base of the bladder against the back of the pubis

Result



A hole between the Vagina and Bladder (VVF)

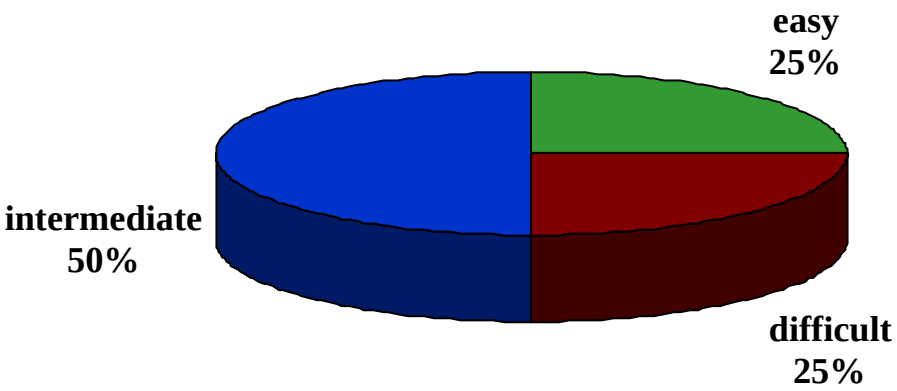


Effect of a VVF

She will be incontinent of urine for life

She will become a social outcast unless she can find a skilled surgeon

Can all patients with VVF be cured?



One quarter are easy with near 100% success

One half are intermediate in difficultly, 90% success for an expert

One quarter are very difficult, 50% success rate for an expert.

Success means closure of the fistula and no stress incontinence.

Why are so few repairs done?

Surgery thought to be difficult

but 25% are quite easy

Results thought to be poor.

but 100% success for easy cases

No teaching in post graduate curriculum

but simple books are available

Lack of special instruments

but they are not needed for easy cases

No specialist nursing care

but nursing care is very easy

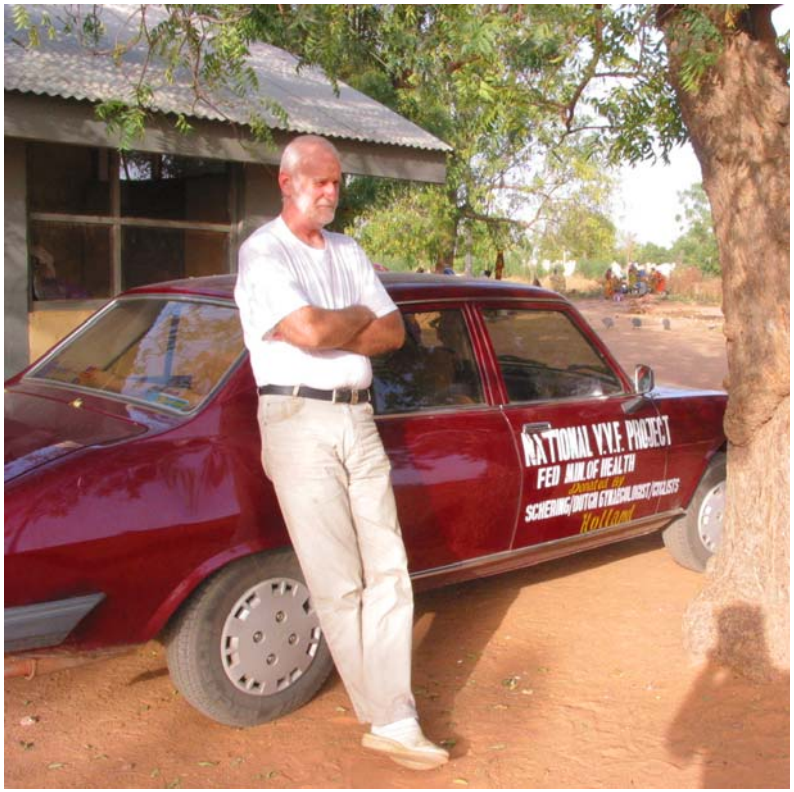
Many cases can be repaired under basic conditions

Kees Waaldijk. Katsina. Nigeria

Kamuli Hospital. Uganda

Most patients are poor and live in rural areas. A good general surgeon can learn to operate on the easy quarter with success.

Further progress is best made by apprenticeship with one of the master surgeons.



Kees Waaldijk
Katsina
Nigeria

Dr Ambye
Addis Ababa
Ethiopia

Principles of repair

Adequate exposure often with an episiotomy

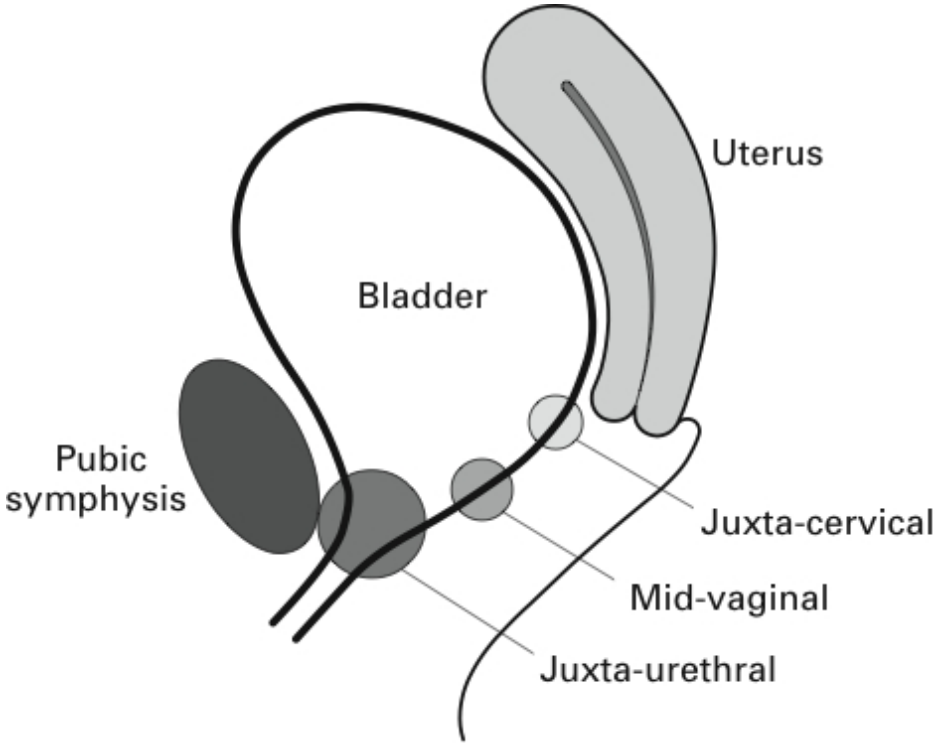
Flap splitting technique.

Mobilise enough healthy tissue to bring together without tension.

Protection of ureters

Excision of scar.

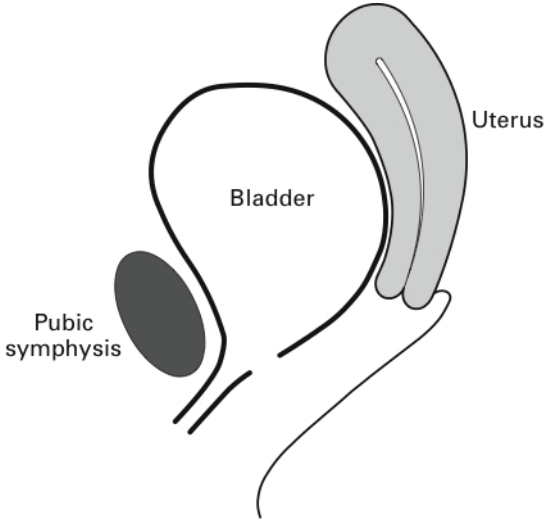
Understanding the nature of VVF



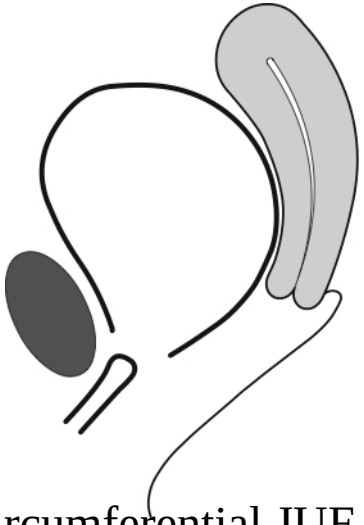
The commonest site for ischaemic injury is the junction of the bladder and urethra.

In severe cases the whole of the anterior vaginal wall and bladder base are lost and the urethra is separated from the bladder.

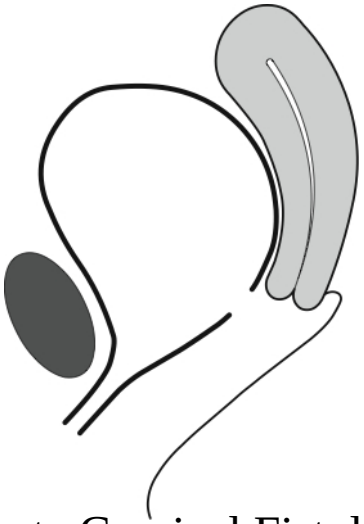
Common types of fistula



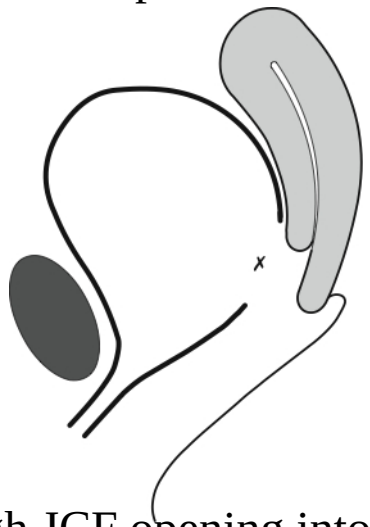
A simple Juxta Urethral Fistula



A circumferential JUF with stenosed proximal urethra

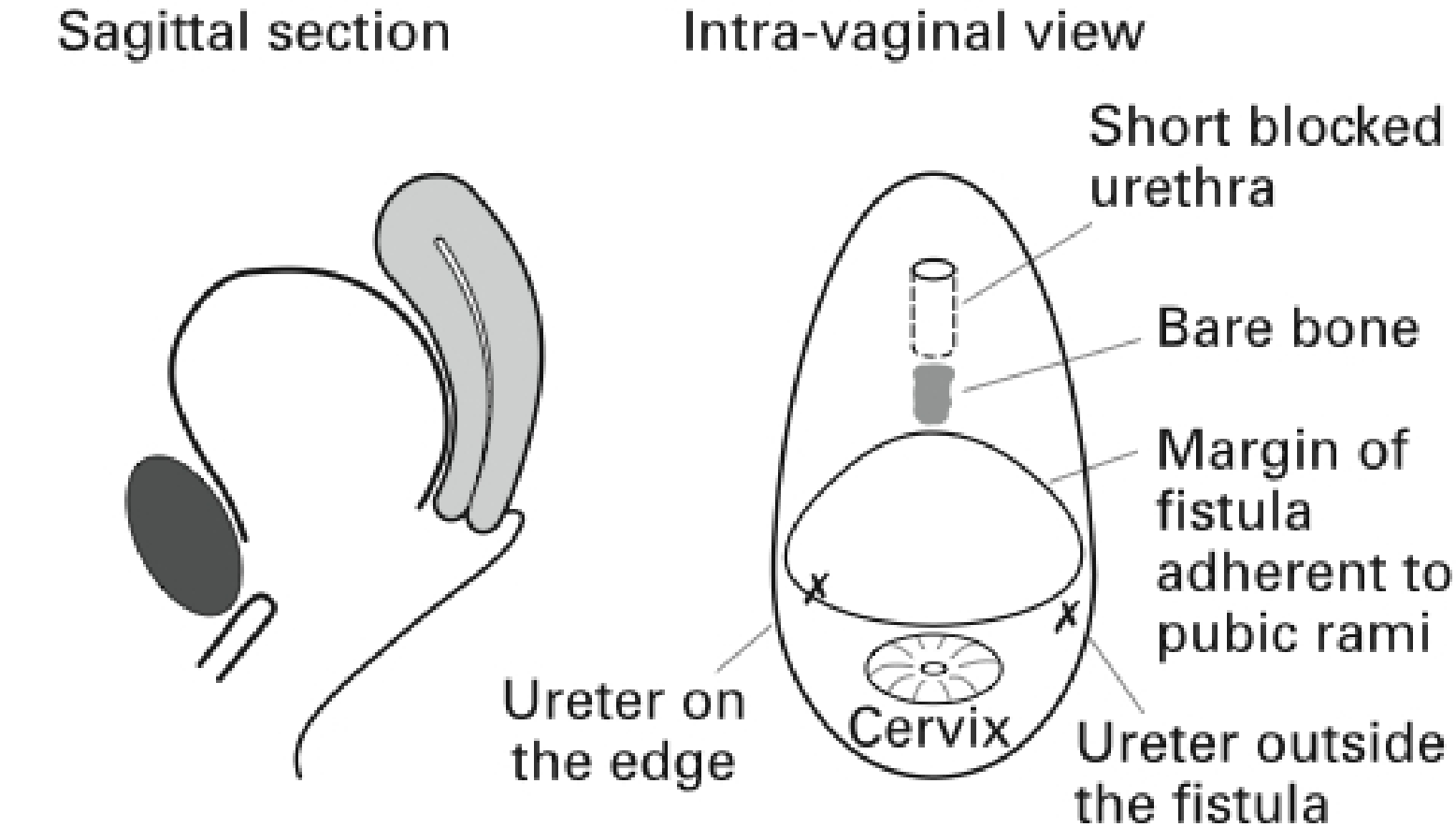


A Juxta Cervical Fistula



A high JCF opening into the cervical canal

Anatomy of a bad fistula



A large circumferential defect with a short stenosed urethra

Diagnosis

Basic history taking

Is the lady wet day and night?

Is there any leakage of faeces as well?

Parity. Which delivery causes the wetness?

Vaginal or Casearean delivery. Where did it take place?

Child still born ?

How long wet?

Have any attempts been made to repair the fistula?

Did the patient have any lower limb weakness after delivery?

What are her social circumstances?

Some demographic facts from 600 cases in Uganda

- Mean age was 26 years
- Mean duration of fistula was 6 years
- 50% were primiparous
- Only 33% of patients with a fistula delivered vaginally, the rest had a Caesarean section.
- 12% of women who developed a fistula after a Caesarean had a live baby. In contrast to 4% in those delivering vaginally.
- 13% had already had at least one attempt at repair.

Examination

Inspection. For signs of wetness.

Palpation by V.E. (don’t forget abdominal exam first)

Is there any stenosis?

Can a defect be felt in the anterior vaginal wall?
If so, what is its site, size and mobility?

Can the cervix be felt? Is the vagina shortened?

If in doubt expose the anterior wall with a speculum.

The patient is wet but no fistula is felt

Perform a dye test. Three swabs are placed in the vaginal and up to 150 ccs of dilute methelyne blue instilled into the bladder. On removal one or more should be stained blue if there is a fistula.

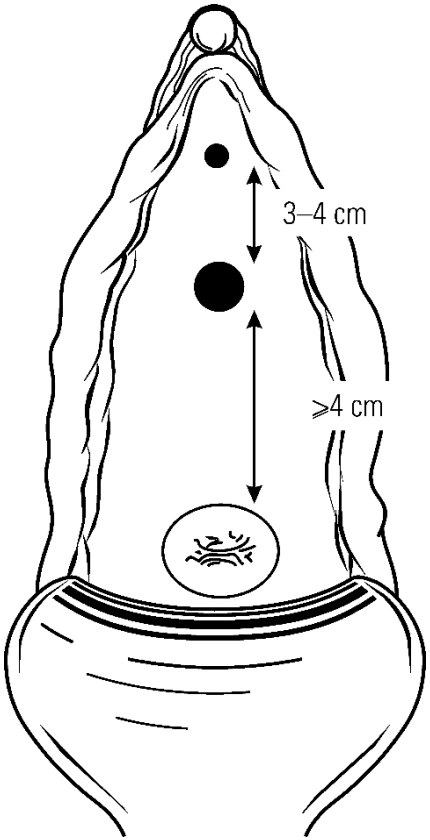
Wetness of the swabs without staining suggests the presence of the uncommon uretero-vaginal fistula following accidental injury at LSCS or Hysterectomy.

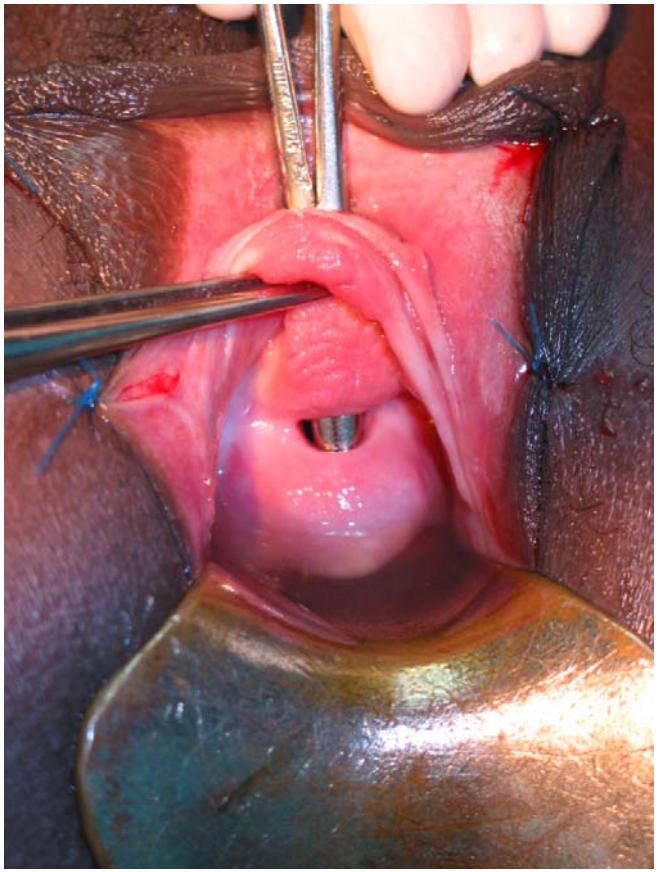
Dye test for occult fistula

The last swab to be removed is blue

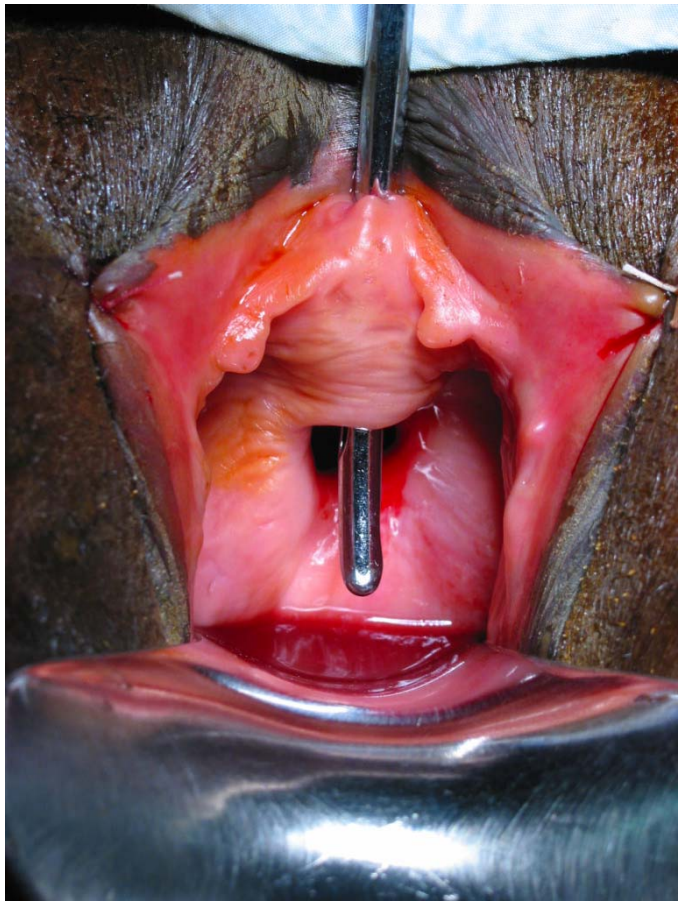
Selection of cases for beginners

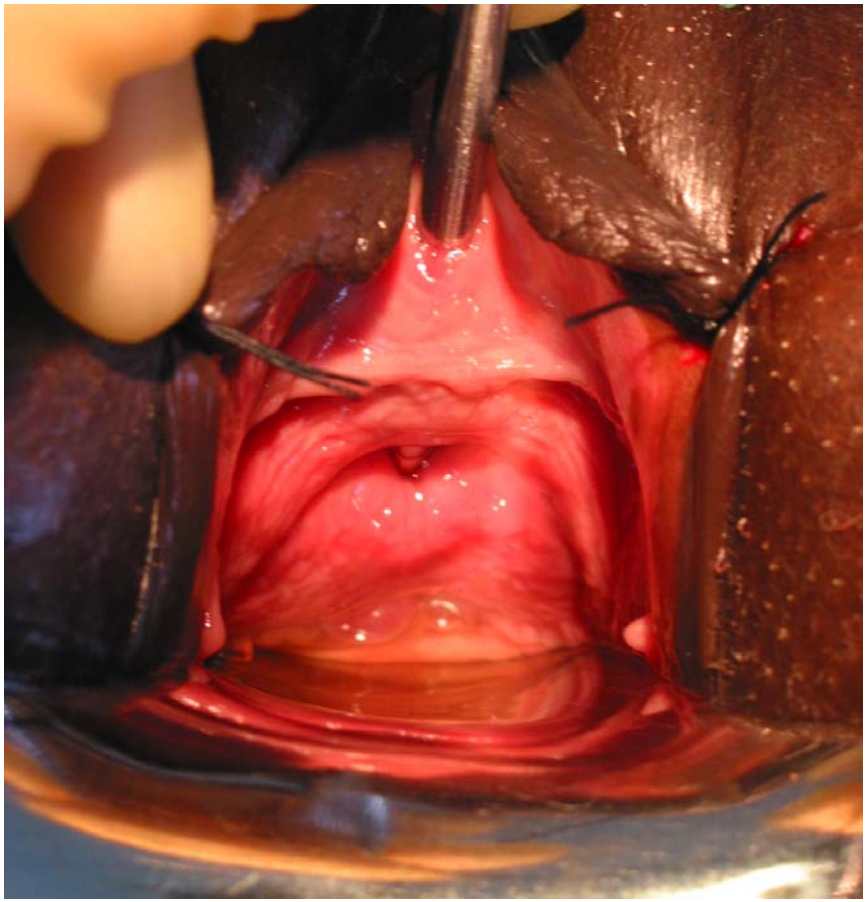
The fistula must be small mobile and accessible.





Two simple cases

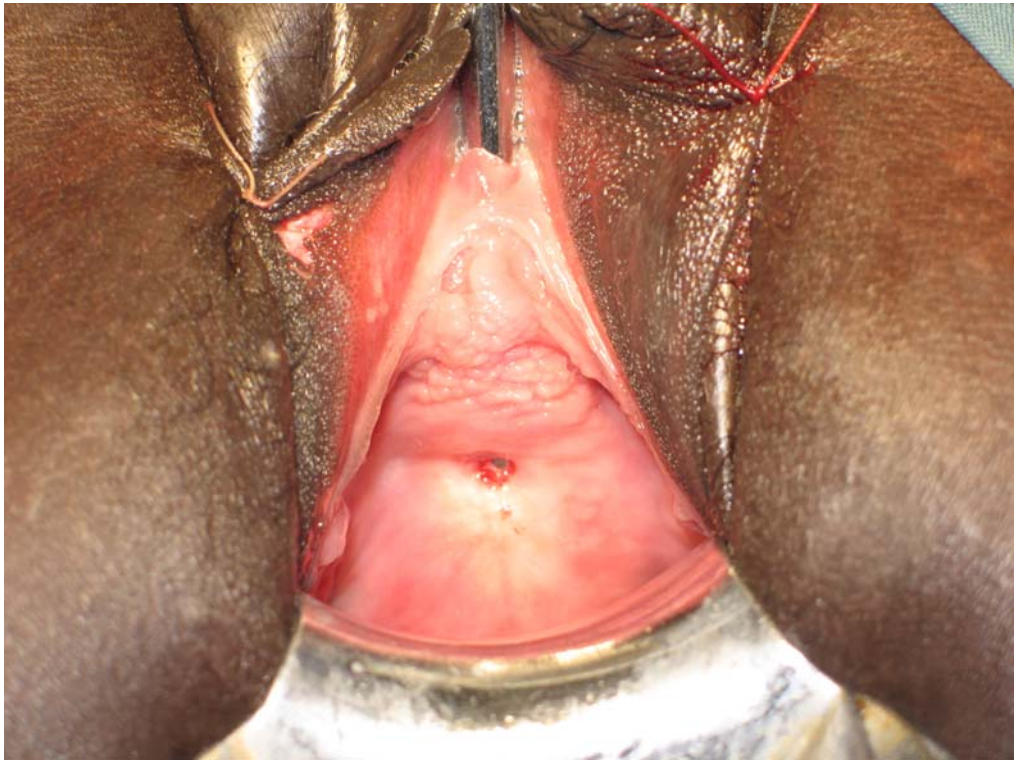




Both fistulae about three cm from the external urethral orifice

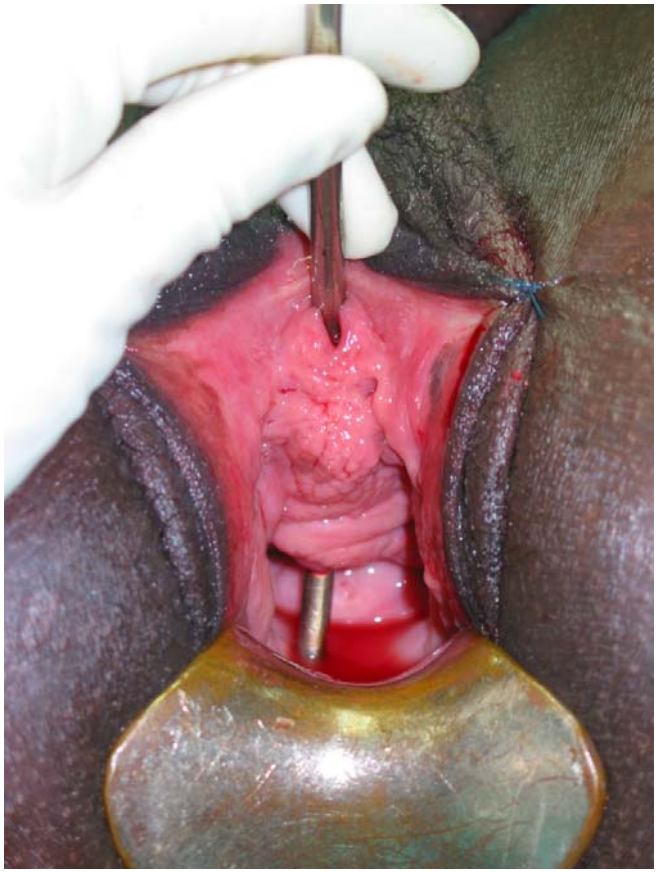
Two more simple cases

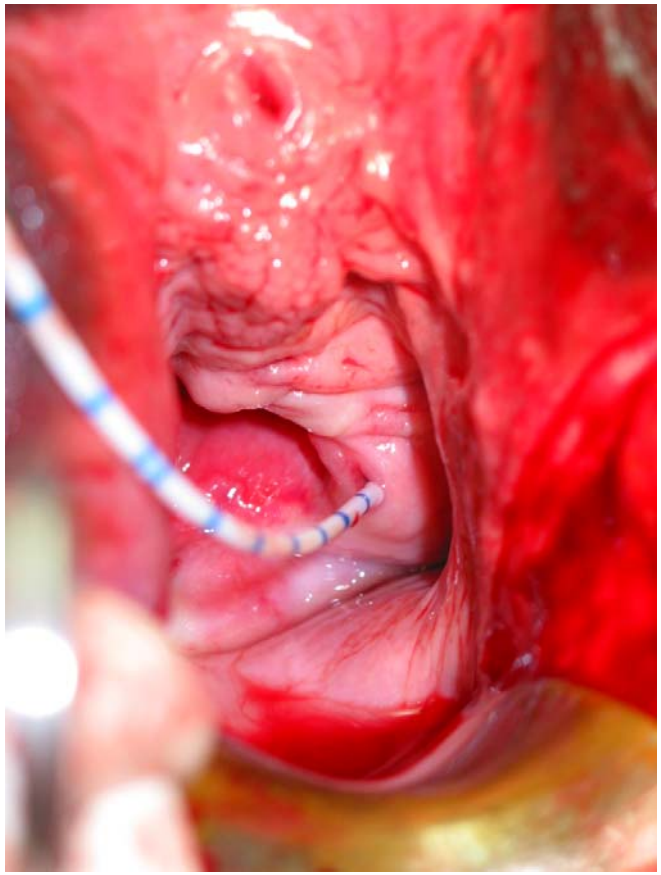
A pin hole opening in the mid vagina



A small juxta urethral fistula

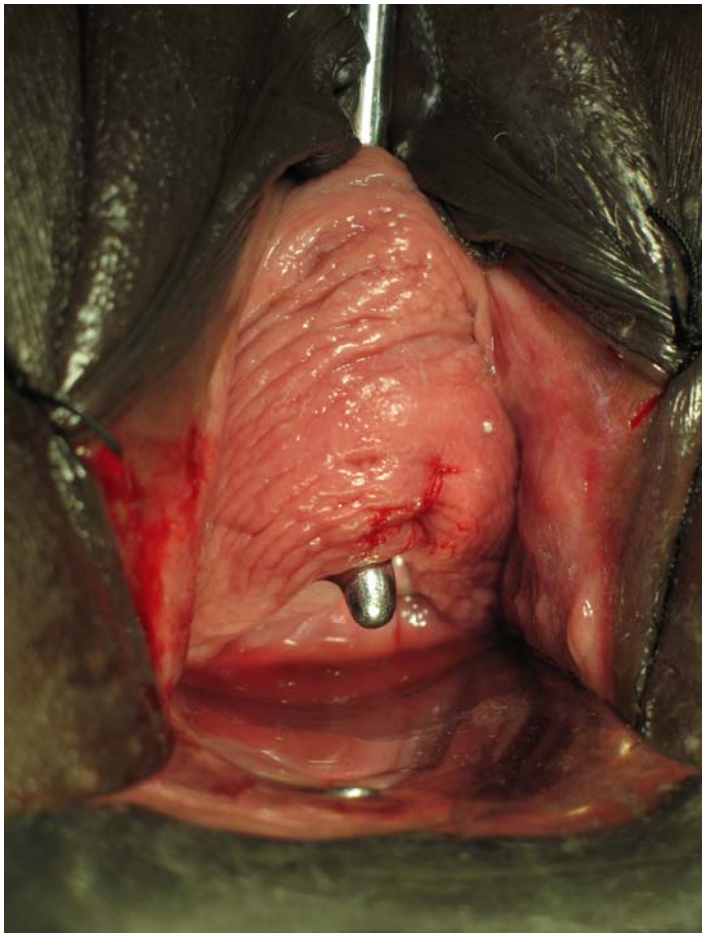
And some not to attempt as a beginner

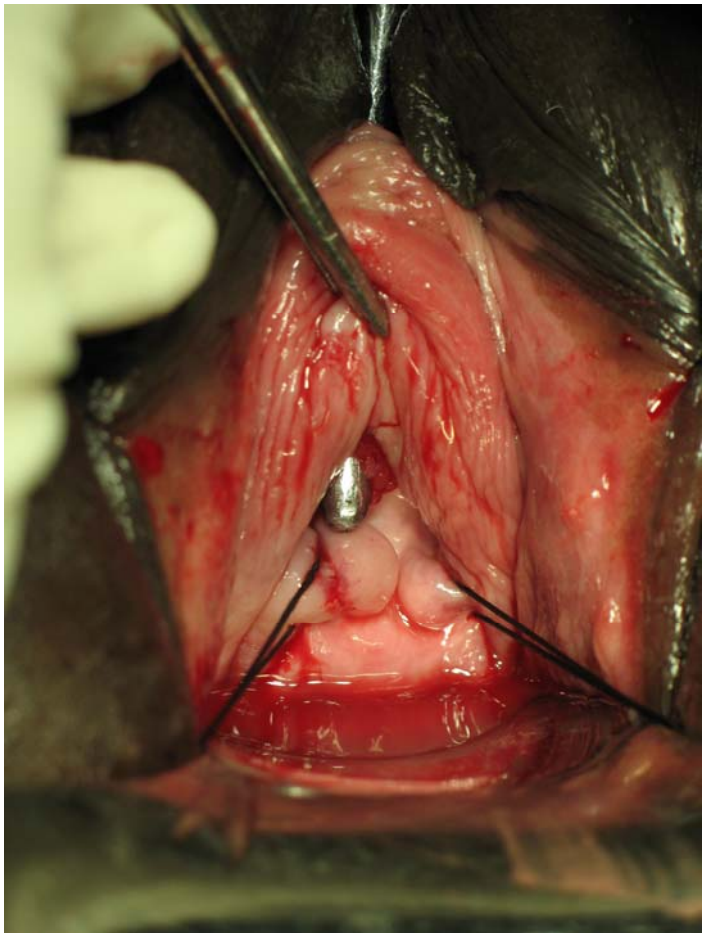




This high juxta cervical fistula has
a ureteric opening on its margin

Another troublesome case

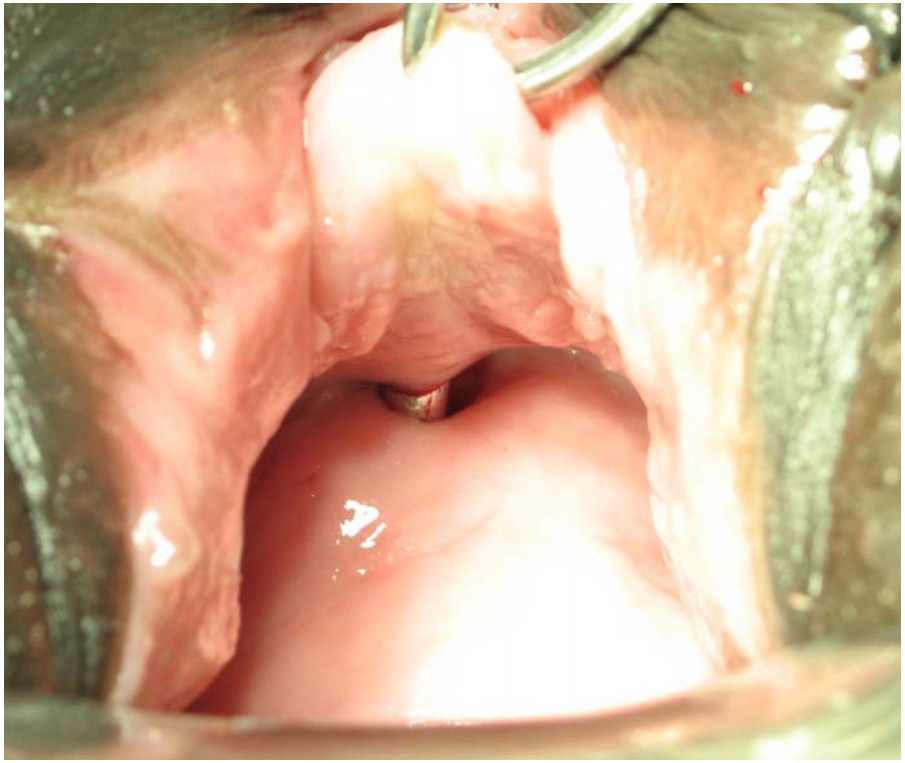




This high fistula extends into an open cervical canal.

Two more intermediate cases

A large mid vaginal fistula



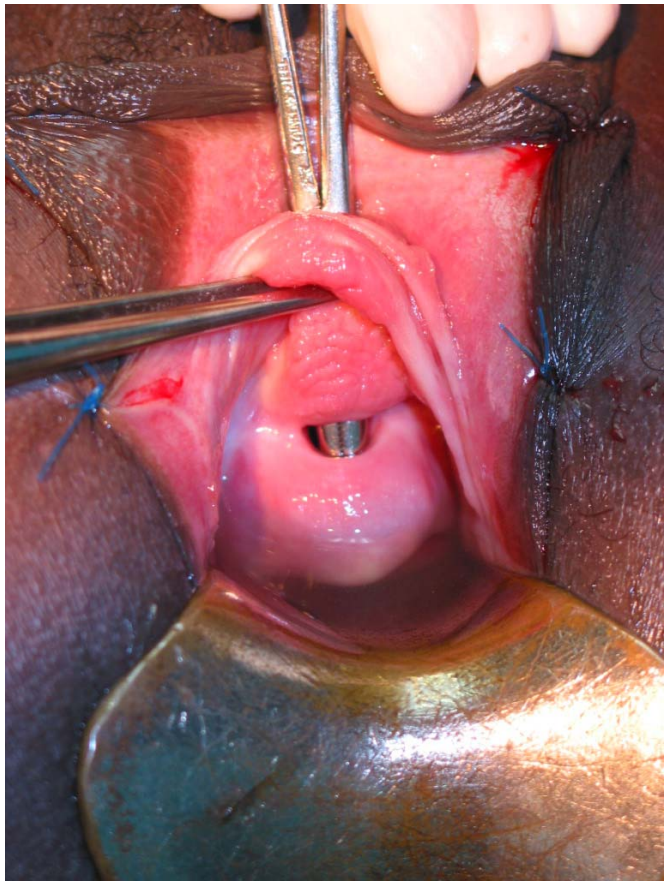
A small juxta urethral fistula pulled up behind the symphysis.

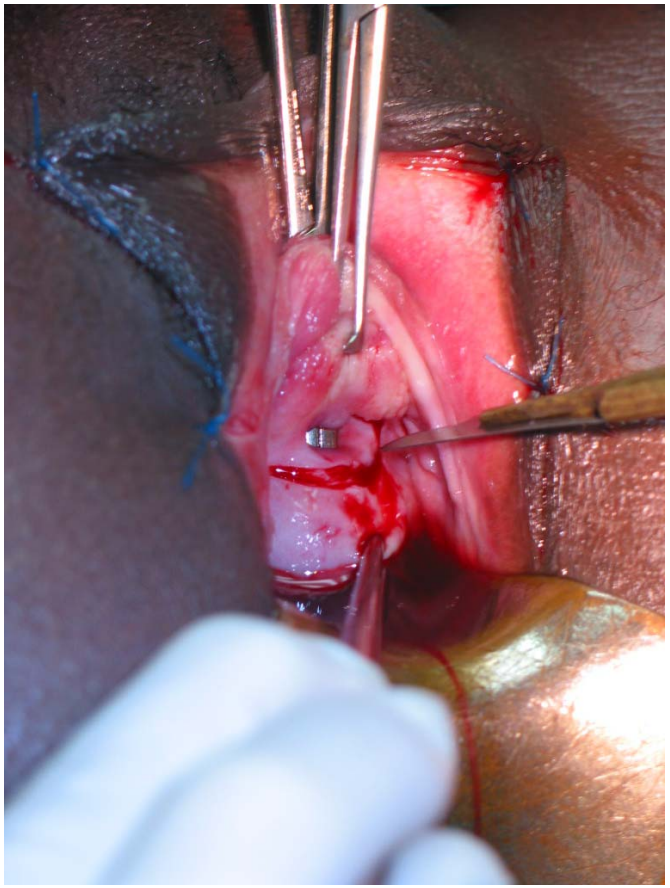
Equipment for simple cases

Tilting table

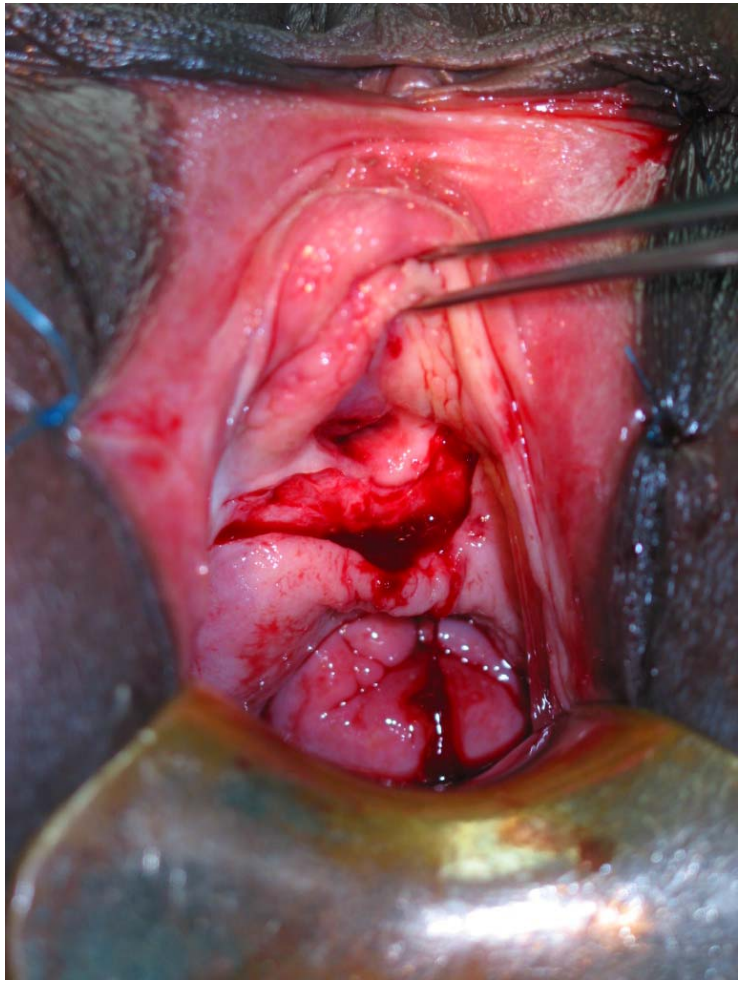
Good quality scissors forceps and needle holder.

A simple juxta urethral fistula

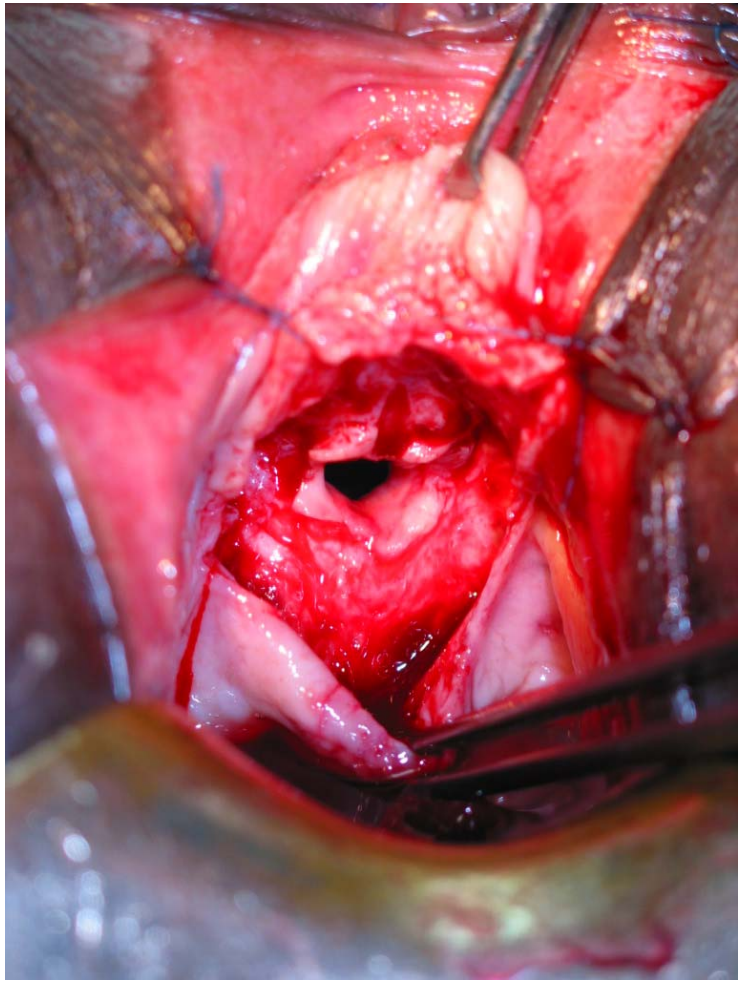




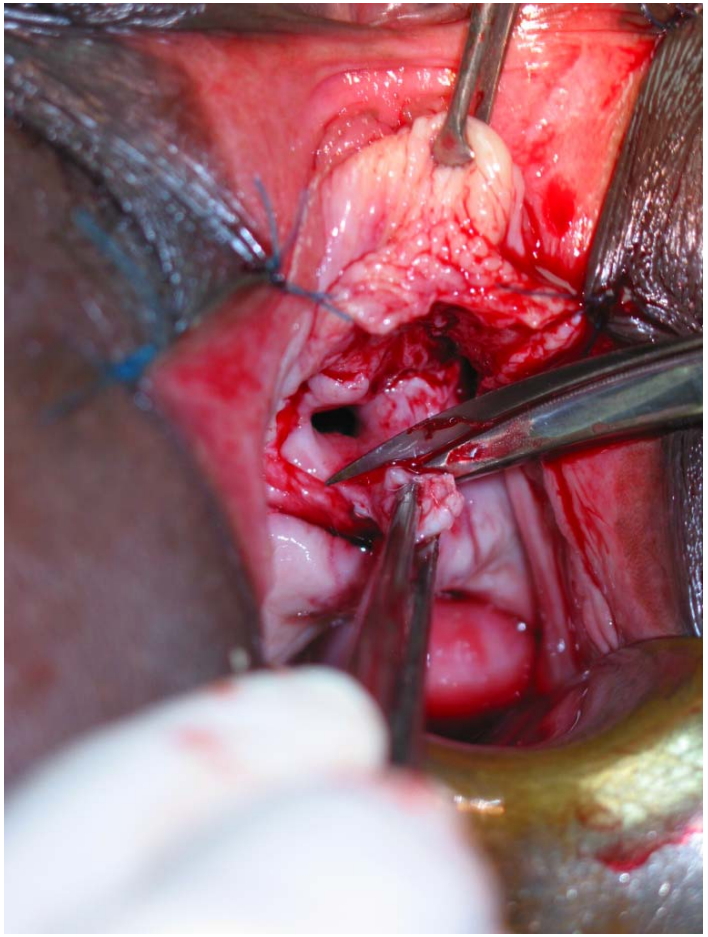
It is small mobile and accessible;
an ideal beginners case



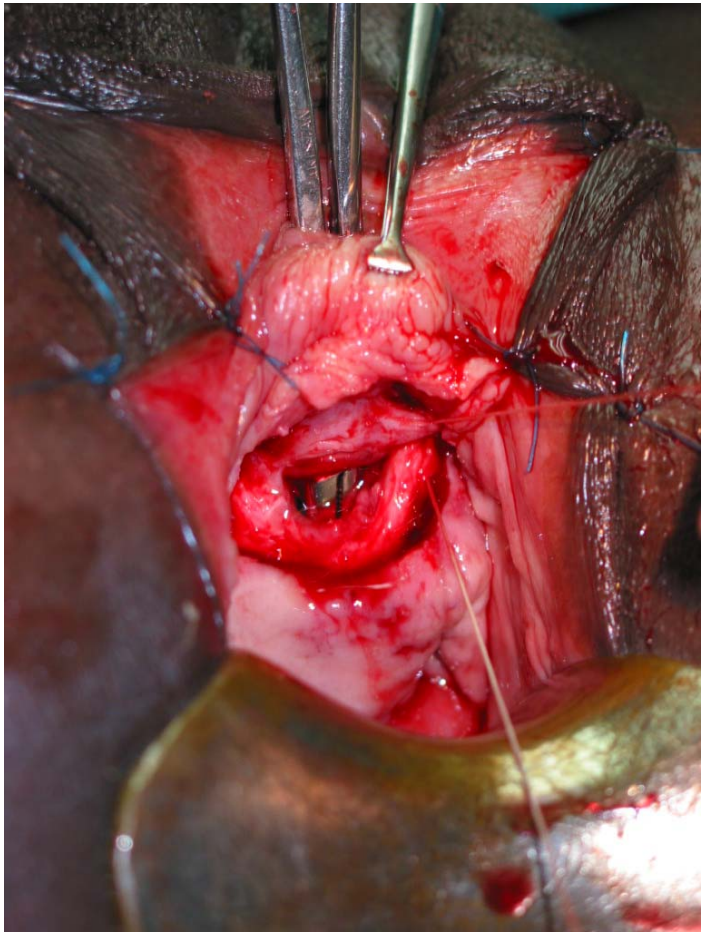
The posterior margin
has been mobilised



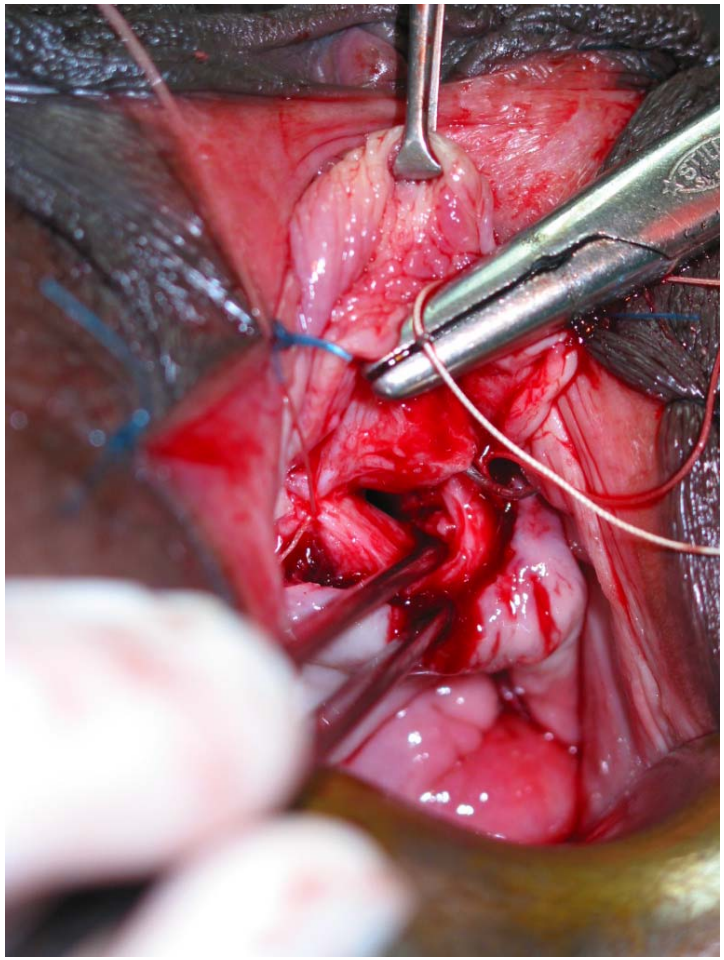
The anterior vaginal
flap has been elevated

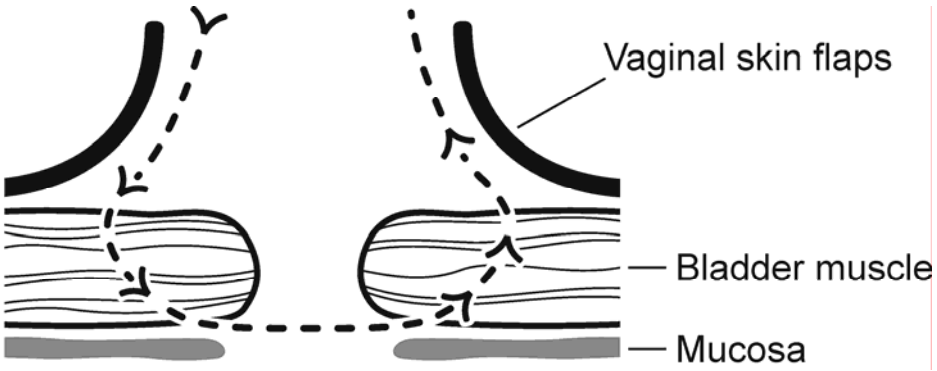


A small rim of vaginal mucosa is excised

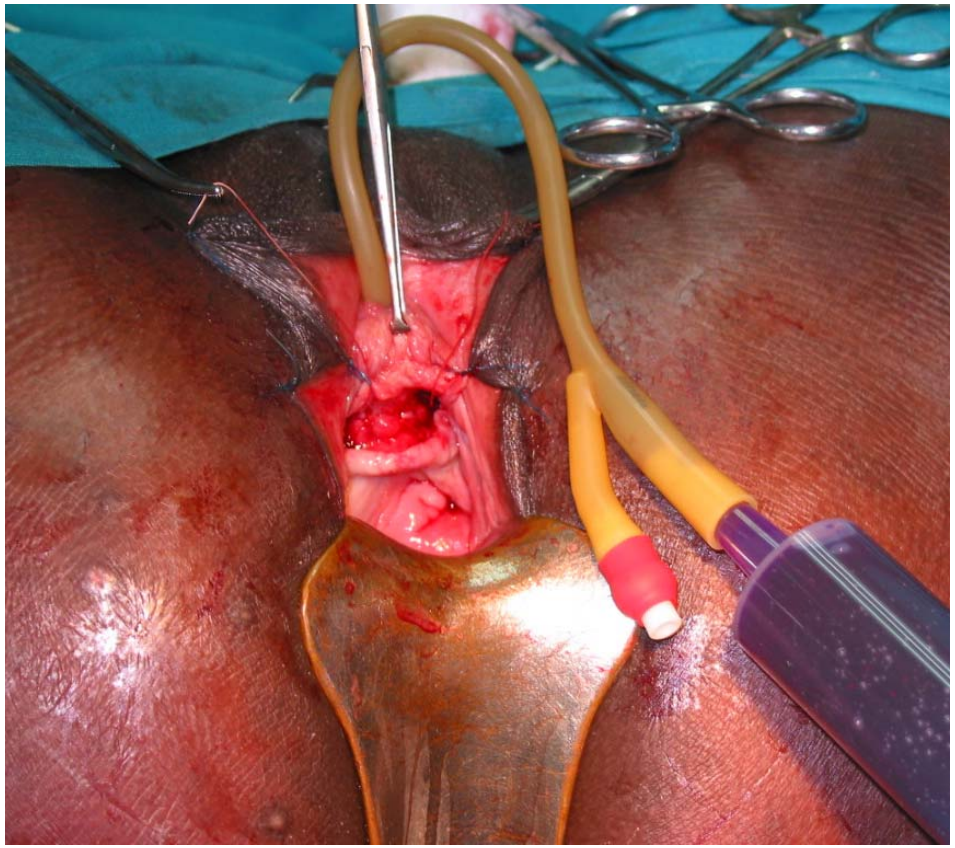


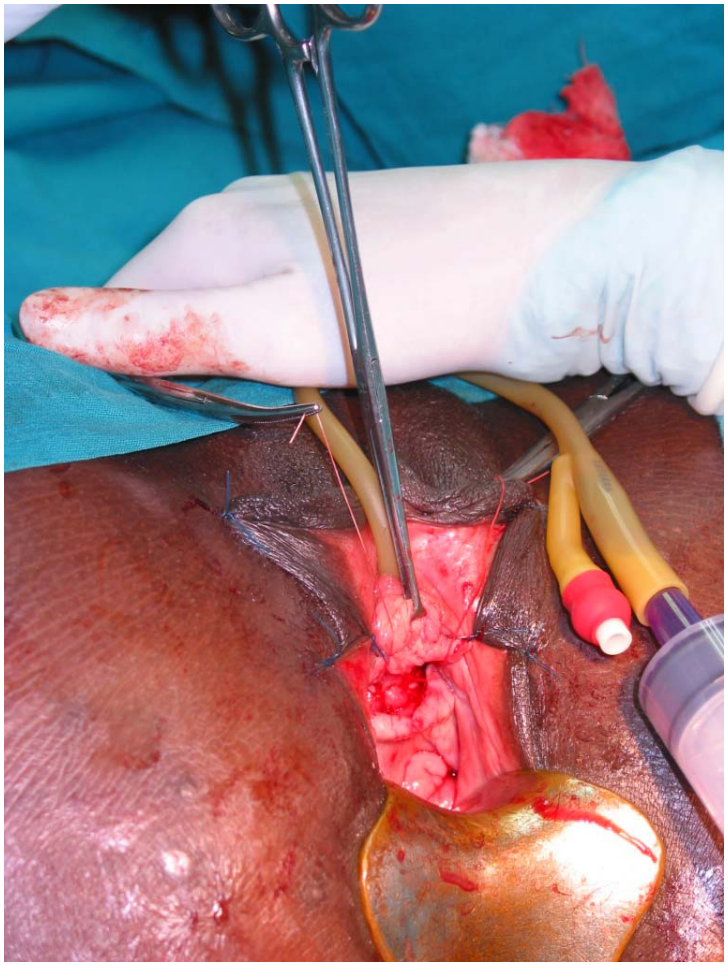
Suture started at the margins.



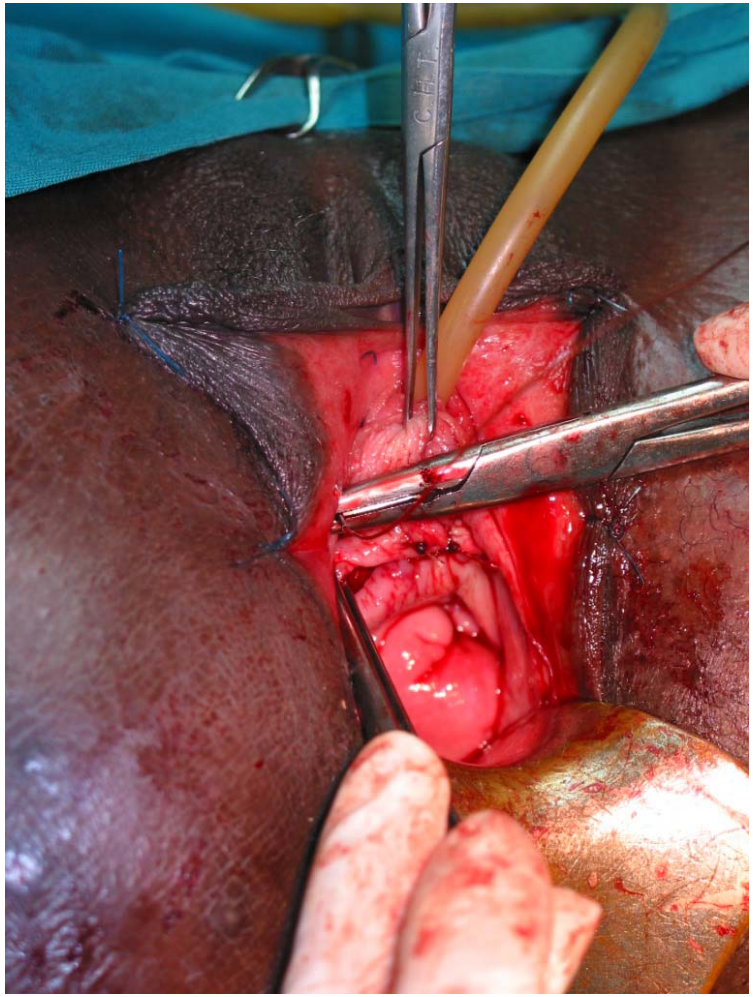


Single layer closure with 2 zero catgut, dexon or vycril

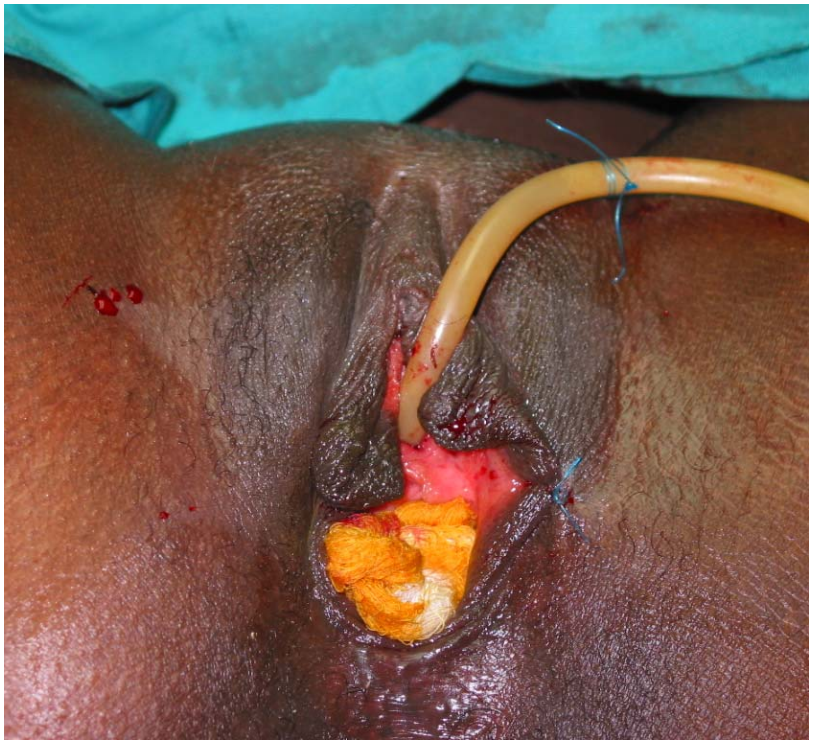




Dye test with 50 ccs of dilute methylene blue



Closure of vagina with absorbable sutures



Vaginal pack and suture for catheter

Basic post operative care for VVF patients

The reality

- Nurses will be in short supply
- Post op care must be kept as simple as possible.
- Patients and their carers must often take responsibility for their own care.

The essentials

The patient must be

Dry

Drinking

Draining

Patient Wet?

Catheter blocked

Leak round catheter

Repair has broken down

A BLOCKED CATHETER is an emergency

Signs

Urine flow stops

Patients feels a full bladder

Wet bed due to leak through the urethra or repair

Action

Look to exclude kinked catheter

Irrigate to clear obstruction

Change catheter

Catheter not draining?

No urine since since op? = accidental suture of Ureters.
(very rare!)

Urine flow stops later? = BLOCKED CATHETER
(quite common)

Kinked Catheters

big trouble ahead

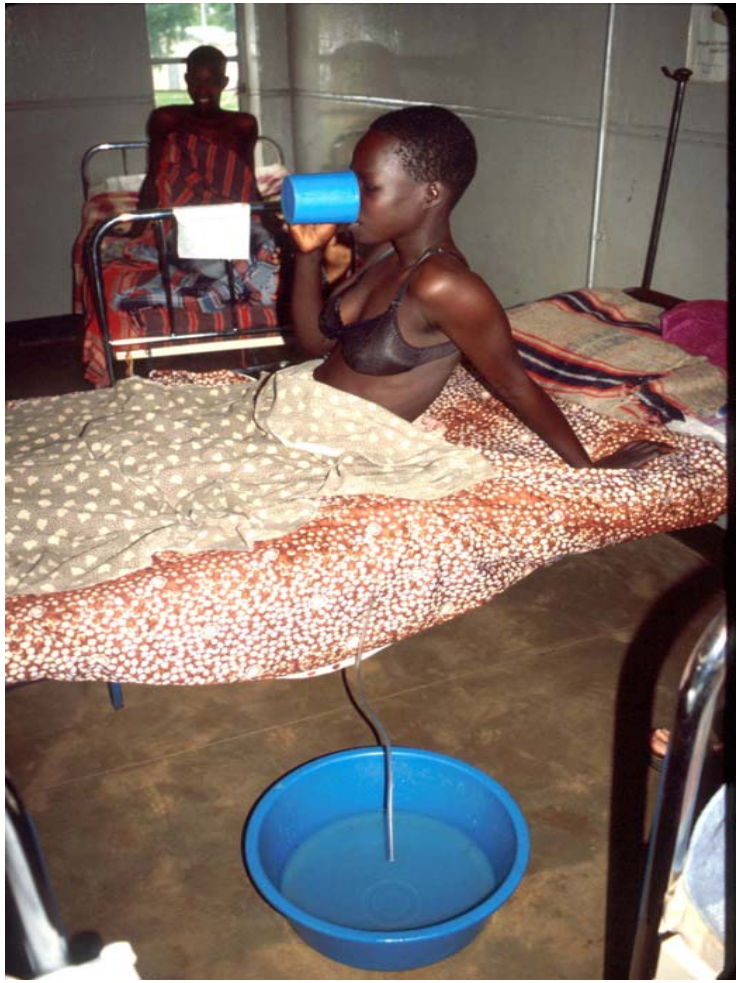
The patient is lying on the catheter

The catheter is kinked

The urine is concentrated

Drinking

Drinking up to 4-5 litres a day is essential to ensure a good output of clear urine



Not drinking?

Why?

Patient afraid drinking will spoil repair

Symptoms

Concentrated urine

Outcome

Urine infections Blocked catheter.

Failed repair

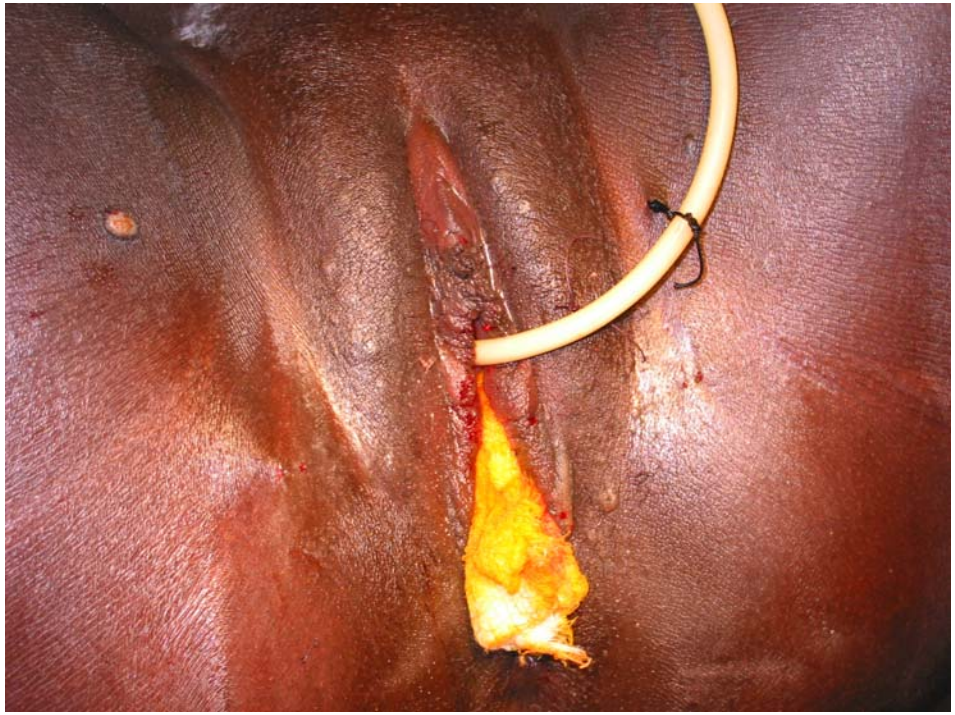
Don’t measure output, just look at the colour.

Too concentrated

Just right

Securing the catheter

- Options
- With suture or strapping
- Strapping comes off suture is better



Ensure free drainage at all times

- Options
  - Closed drainage into a bag
  - Free drainage into a kidney dish. (Addis method)
  - Free drainage into a basin or bucket

Free drainage, the Addis Method.

Advantages

The best method for ensuring nothing pulls on the catheter.

Disadvantages

Patient must stay in bed on her back.

Requires very high level of nursing care rarely available in other hospitals.

Closed drainage

This is a very high tech system.

Closed drainage

But the tubing can kink in this system too!!

Problems with closed drainage

This bag will get over full and fall off

Problems with closed drainage

What happens to this bag in the night?

Problems with closed drainage

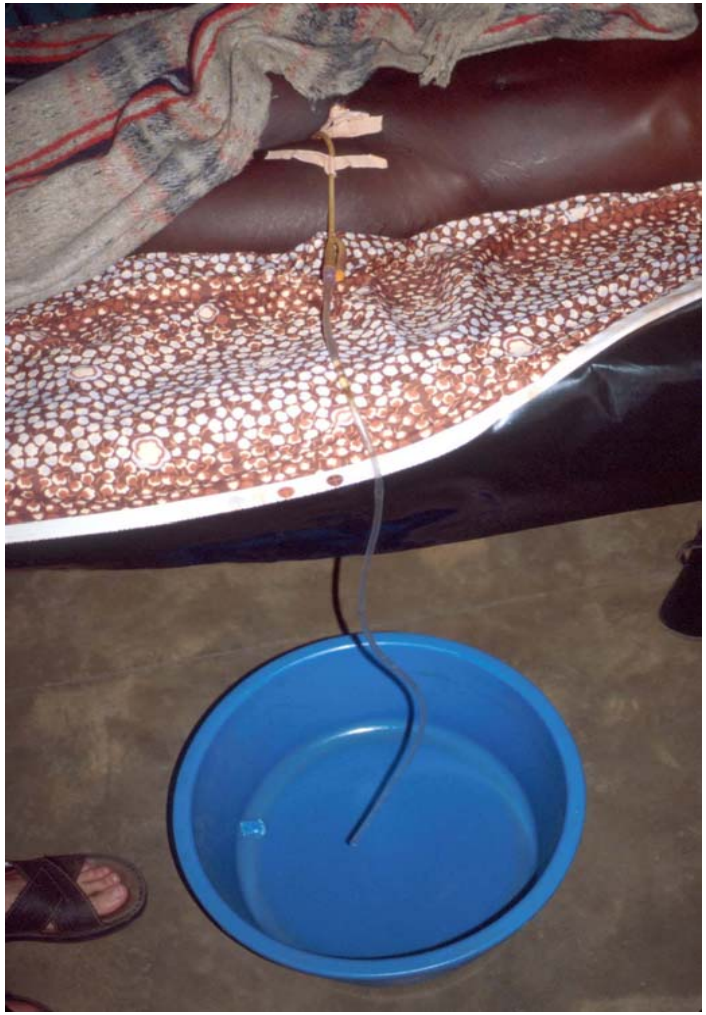
What happens when his lady turns over?

A practical method of Drainage.

Free drainage into a basin or bucket allows the patient to move freely in bed.

Nothing can pull on the catheter.

The quantity and quality of urine output can be easily observed.



Early mobilisation

Up with a bucket on day two.

Good for patient morale

Avoids Pressure sores and DVT risk.

Low nursing care.

Patients must continue to Drink ++++.

Other aspects of post op care

Daily perineal washing essential.
Catheter irrigation is not necessary
if the urine output is good.

After day two, the patient can be largely self caring until the catheter comes out.

Some happy patients

Further reading

•First steps in Vesico Vaginal Fistula surgery.

Brian Hancock

•Step by Step Surgery of Vesico Vaginal Fistula.

Kees Waaldijk

Both obtainable from Teaching Aids at Low Cost. (TALC)
Box 49, St Albans, Herts, AL1 5TX, UK. (info@talcuk.org)
Price £2.50 each.