# national vvf project nigeria

**evaluation report VII**

January through June 1995

## reprint

Babbar Ruga Fistula Hospital
KATSINA

and

Laure Fistula Center
KANO

and

Jummai Fistula Center
SOKOTO

by

Kees WAALDIJK

reprint

sponsored and financed by:
**waha-international**
paris

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**VVF-projects**

**Babbar Ruga Fistula Hospital**
**KATSINA**

and

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**SOKOTO**

by

Kees WAALDIJK

**seventh evaluation report**
**VVF-projects KANO/KATSINA/SOKOTO**

## introduction

It seems that VVF has become a political issue in Nigeria with all the good and all the bad things.

A very unfortunate incident at the end of January 1995 foced us to stop working in KANO for 2 full weeks and even after that it took 2 mth to get everything back in order just because one private person tried to pursue her political ambitions. It looked very much like a planned move to steal all the activities of the National Task Force on VVF, lock, stock and barrel. In the same period the surgical instruments were stolen from the operation theater in SOKOTO, whilst in KATSINA several false allegations were made against the center. The National Task Force set up an independent investigation panel which cleared everything, and official apologies were made.

A workshop was organized by NTFVVF/GHON in ZARIA on the 1st and 2nd of June with title: the scourge of VVF: a preventable social calamity; 280 participants came from all over the Federation.

Three 3-day workshops in Hausa were organized by Katsina State Chapter of Nigeria Association of Social Workers in KATSINA on 8-10th June, DAURA on 13-15th June and FUNTUA on 19-21st June. Each workshop drew far over 200 participants, and it was interesting to note that the TBAs and the local barbers asked many questions.

During the last 2 weeks of June negotiations started again between Katsina State and the United Nations Development Programme. What about Kano State?

The programme between the Netherlands Government and the National Coalition on VesicoVaginal Fistula is going on like planned.

From January onward the consultant went 3 days a week to KANO as the new 20-bed postoperative ward was completed in November 1994 but not very much could be achieved due to the above-named incident.

Sofar, the consultant went 2x to Sokoto State where there are still some starting up problems but the results sofar are promising. The trip starts in KATSINA, then up to KANO (200 km), from KANO to SOKOTO (500 km) and from SOKOTO back to KATSINA (575 km); so in total 1275 km!!

It is only due to a grant from the Schumacher-Kramer Foundation in combination with the Foundation Tiel Tot Tropen that we are able to travel from KATSINA to KANO to SOKOTO and back to KATSINA and that we can provide for things like spinal anesthetic agents, suturing material, needles, scalpels, gauze etc.

It seems that as long as we only have one functioning "operation" table in each center, we have reached the maximum of operations we are able to perform, in total stabilized at some 1,000 VVF/RVF-repairs a year. To increase our output we do need at least two functioning operations tables in each center, and once the deputy surgeons have been trained fully three.

The training of nurses has been shifted back to Dr Ann WARD in UYO, Akwa Ibom State; except for a few theater nurses to be trained together with the surgeons.

**long-term objectives**

To establish a lasting VVF-service with ultimately the total eradication of the obstetric fistula.

lasting VVF-service

In KANO and KATSINA a VVF-repair service with training of doctors and nurses has been established. In SOKOTO we just started.

prevention

There is no relation to tribe, religion, culture, early marriage or anything else, except for early intervention by CS within 3 hours.

The obstetric fistula will disappear if any obstructed labor is relieved in time, i.e. by CS within 3 hours, whatever the cause!

Considering the population explosion and the deterioration of health services, the obsteric fistula will increase during at least fifty years coming throughout Africa.

**short-term objectives**

KATSINA

Water supply:

In addition to the 6 functioning wells, two bore holes have been drilled inside the hospital compound by KTARDA. A handpump has been mounted on one, also by KTARDA, and a submersible pump on the other, as a small embassy project of the Dutch Government. It will serve roughly 1,500 persons with reliable drinking water, a major asset.

Transport:

The PEUGEOT J5 bus donated by the Netherlands Government to Babbar Ruga Hospital will solve the transportation problem for the coming 8-10 years.

International Training Center:

We are completely set and fit now to train different cadres of doctors/nurses from all over Africa. For a smooth coordination we would like to liaise with WHO and NTFVVF.

KANO

The new Amina SAMBO postoperative ward with 20 beds has been completed with the main contribution by the Kiwani Club ALPHEN a/d RIJN. It was commissioned in December, and we shall start using it from January 1995 onwards. This will increase the number of operations by 50% up to 600 repairs a year in 1995.

As NEPA is unreliable there is need for a small 7.5 kVA standby generator for the theater to ensure that we can operate at all times. Otherwise the electric autoclave cannot be used for sterilizing. The electricity problem was responsible for the fact that almost on every operation day 1 repair less was done than planned, i.e. a total of 50-60 for this year.

SOKOTO

The first priority is to get a proper operation table, then we urgently need a hostel of some 50 beds. Some of the surgical instruments were stolen in the same week as the bad thing happened in KANO; any connection?

**In all centers KANO and KATSINA and SOKOTO there is an urgent need for 2 hydraulic high-quality operation tables; so six in total**

**activities**

postgraduate training (see Annex I)

After many years of intensive training all types of health personnel in the management of VVF/RVF, we are now ready to to expand our services to other countries as the problem is all over Africa with 1.5-2 million VVF-patients waiting for surgery.

**deputy surgeons**
Two interested indigenous doctors have to be selected, one from Kano State and the other from Katsina State. An intensive training programme will be set up sothat in due time they will be able to take care of the centers more or less on their own, and the consultant will have time to concentrate on expansion of the project first throughout the rest of (Northern) Nigeria and eventually throughout the whole of (West) Africa.

**general doctors/senior registrars/visiting consultants**
Sofar, a total of **42** doctors have been trained or attended our programmes in KANO and KATSINA

**one-month postgraduate training course for nurses**
A total of 40 Nigerian nurses from all over the Federation attended and completed the course.
For this I have to praise Mr Kabir LAWAL and Mrs Hadiza MOHAMMED.

surgery (see Annex II)
In KANO we performed 373 VVF-repairs and 43 RVF-repairs and in KATSINA 496 VVF-repairs and 45 RVF-repairs whilst in SOKOTO 42 VVF-repairs were performed by Dr Bello S CHAFE making a total of 999 VVF/RVF-repairs during 1994. The 1,000 mark was not reached this year mainly as the electricty supply in KANO was insufficient which was almost 1 operation daily less than planned.

## research

**generally**
Almost all problems related to VVF-surgery have been solved except postoperative urge incontinence due to detrusor instability.
However, it seems that 2-3 out of 1,000 fistula patients are not operable under our conditions right from the beginning. They present with extensive fistula, subtotal bladder loss, narrow pubic angle and severe funnel-shape vagina stenosis.

**VVF-surgery**
Having started already in 1989 with the **circumferential repair** of the **circumferential fistula**, this seems to be the theoretical and practical solution for these difficult fistulas.

**corner-corner fistulas**
It seems a solution has been found for this very difficult type of fistula: a. longitudinal incision thru fistula, b. extirpation of scar tissue, c. oblique closure of bladder/urethra and d. oblique avw closure. However, due to the scarring continence remains a problem. This access makes it possible to see what one is doing instead of working half in the blind as before.

**female epispadias**
Vaginal anterior colposuspension onto the anterior abdominal musculature and posterior symphysis seems to be sufficient to make them 100% continent.

**examination under anesthesia (EUA)**
This seems to be very much practiced, but why not proceed immediately then with the repair insteadof having her waken up. If one cannot make up his mind at a normal vaginal examination, it is better for him to refer the patient to someone more experienced. Also it seems to be a money maker for dubious characters as except for looking you do not have to do anything.

**immediate surgical management; by means of catheter and/or early closure**
Our standard treatment for patients with a fistula duration of less than 3 months can be recommended to any fistula surgeon.

This management is in line with basic surgical principles as applied in the other types of necrotic lesions like burn wounds, bedsores etc: extirpation of necrotic tissue, no antibiotics and closure as soon as it is clean. In burn wounds the use of systemic antibiotics is even considered to be mal-practice.
Already some 650 patients have been treated in the 2 years since we started with a success rate of almost 95%! Not only the closure rate is high also the continence rate. This is probably due to the fact that the operation is carried out before scarring starts.

**bulbocavernosus fat pad graft**
For the last 3,000 repairs grafting was not done anymore, and the results are just the same. Somehow the sealing off and continence are not related to this procedure.

**RVF-surgery**
Also here a start was made with early closure but an evaluation of the results has not yet been done. Since a change was made from chromic catgut to serafit (a polyglycolic acid), the success rate went up to over 85%. If possible the repair is performed intravaginally/intrarectally with good closure of the rectum mucosa as well to prevent stools from entering suture lines..... Some surgeons seem to think that a colostomy only is the solution to RVF but colostomy is only accepted if a RVF-repair can be undertaken 3-4 wk later and if the RVF-repair is successful the colostomy to be closed 3-4 wk later.

**micturition under supervision**
As several patients stop drinking due to the leaking when they are incontinent, a new programme was started whereby under supervision they are instructed to drink as much as posible and to pass urine frequently up to 100 times a day.

## administration/documentation

**database** (see Annexes)
There has been a delay in establishing a computerized relational dBase programme mainly due to problems with the structure.

**teaching materials** (see Annexes)
The short notes/checklist on VVF have been updated. The surgical handbook especially destined for the indigenous African doctors **step-by-step surgery of vesicovaginal fistula** has been published in December 1994, of which some 2,500 copies were sponsored by the following organization:

SIMAVI
Spruitenbosstraat 6
NL 2021 LK HAARLEM
The Netherlands
fax: (..31) 23 318538

Within the five following African countries 500 copies each will be distributed free of charge: Ghana, Kenya, Nigeria, Tanzania and Uganda

**conclusion**

For Kano State and Katsina State a functioning VVF-service has been established including a training programme for doctors and nurses from all over the Federation of Nigeria.
Time has come now to expand the programme, first to the other 29 States of (Northern) Nigeria and then to the rest of (West) Africa.

P.S.
**what about the rest of the 1,5-2 million VVF-patients in Africa?**

an International Obstetric Fistula Foundation is long overdue!!!

kees waaldijk MD PhD
chief consultant surgeon

Babbar Ruga Fistula Hospital
P.O.Box 5
KATSINA

**annex I**
**list of trainees**

**deputy surgeons**

| | |
|---|---|
| Dr (mrs) Yelwa USMAN | Laure Fistula Center, KANO |
| Dr Jabir MOHAMMED | Babbar Ruga Fistula Hospital, KATSINA |
| Dr Bello Samaila CHAFE | Jummai Fistula Center, SOKOTO |

general doctors with at least 3 yr surgical experience

| | |
|---|---|
| Dr Idris S. ABUBAKAR | Kano State |
| Dr Abdu ADO | Katsina State |
| Dr Mohammed I AHMAD | Jigawa State |
| Dr Said AHMED | Jigawa State |
| Dr Yusha'u ARMIYA'U | Katsina State |
| Dr Shehu BALA | Katsina State |
| Dr Bello Samaila CHAFE | Sokoto State |
| Dr Umaru DIKKO | Kano State |
| Dr Gyang DANTONG | Plateau State |
| Dr James O. FAGBAYI | Kwara State |
| Dr Saidu A. IBRAHIM | Jigawa State |
| Dr Zubairu ILIYASU | Adamawa State |
| Dr Benedict ISHAKU | Plateau State |
| Dr Momoh Omuya KADIR | Kogi State |
| Dr Hassan LADAN | Kebbi State |
| Dr Sabi'u LIADI | Katsina State |
| Dr Linda MAMMAN | Adamawa State |
| Dr Gamaliel Chris MONDAY | Plateau State |
| Dr Ibrahim MUHAMMAD | Jigawa State |
| Dr Dunawatuwa A.M. MUNA | Borno State |
| Dr Yusuf Baba ONIMISI | Kano State |
| Dr Aminu SAFANA | Katsina State |
| Dr Isah Ibrahim SHAFI'I | Kebbi State |
| Dr (Mrs) Yalwa USMAN | Kano State |
| Dr Munkaila YUSUF | Kano State |

senior registrars

| | |
|---|---|
| Dr Yomi AJAYI | IBADAN |
| Dr Nosa AMIENGHEME | ILE-IFE |
| Dr Lydia AUDU | SOKOTO |
| Dr Ini ENANG | ZARIA |
| Dr Nestor INIMGBA | PORTHARCOURT |
| Dr Jesse Yafi OBED | MAIDUGURI |
| Dr Mansur Suleiman SADIQ | KANO |
| Dr Dapo SOTILOYE | ILORIN |
| Dr Emmanuel UDOEYOP | JOS |
| Dr (Mrs) Marhyya ZAYYAN | KADUNA |

residents in anesthesia

| | |
|---|---|
| Dr Abdulmummuni IBRAHIM | Katsina State |

visiting consultants

| | |
|---|---|
| Prof Dr Shafiq AHMAD | PESHAWAR, Pakistan |
| Dr Frits DRIESSEN | NIJMEGEN, Holland |
| Prof Dr Jelte DE HAAN | MAASTRICHT, Holland |

| | |
|---|---|
| Dr Vivian HIRDMAN | STOCKHOLM, Sweden |
| Prof Dr Oladosu OJENGBEDE | IBADAN, Nigeria |
| Dr Ruben A. ROSTAN | MASANGA, Sierra Leone |
| Dr Ulrich WENDEL | REUTLINGEN, Germany |

nurses

| | |
|---|---|
| Mohammed B A ADAMU | Adamawa State |
| Rauta I BENNETT | Bauchi State |
| Hauwa D HERIJU | Borno State |
| Martha F MSHEH'A | |
| Theresa INUSA | Kaduna State |
| Hajara S MUSA | |
| Sara SALEH | |
| Fatima A UMARU | |
| Herrietta ABDALLAH | Kano State |
| Esther AUDU | |
| Hauwa BELLO | |
| Sherifatu A JIMOH | |
| Ramatu DAGACHI | |
| Kutaduku B MARAMA | |
| Mairo A MOHAMMED | |
| Mabel A OBAYEMI | |
| Comfort OYINLOYE | |
| Amina UMARU | |
| Habiba A USMAN | |
| Adetutu S AJAGUN | Katsina State |
| Magajiya ALIYU | |
| Taibat AMINU | |
| Hauwa GARBA | |
| Halima IBRAHIM | |
| Ladi H MOHAMMED | |
| Halima I NOCK | |
| Saratu S SALEH | |
| Aishatu M ANARUWA | Kebbi State |
| Aishatu SAMBAWA | |
| Kulu A SHAMAKI | |
| Leah T AMGUTI | Kogi State |
| Hajara JOSEPH | Niger State |
| Dorcas NATHANIEL | |
| Hauwa TAUHID | |
| Rhoda T AGANA | Plateau State |
| Victoria S HARRI | |
| Lami PAN | |
| Esther ADAMU | Sokoto State |
| Beatrice AKINMADE | |
| Elizabeth Y GAJE | Yobe State |

**annex II**

## VVF/RVF-repairs in Laure/Babbar Ruga/Jummai Fistula Centers

| | KANO | | KATSINA | | SOKOTO | | |
|---|---|---|---|---|---|---|---|
| | VVF | RVF | VVF | RVF | VVF | RVF | grand total |
| 1984 | - | - | 83 | 6 | - | - | 89 |
| 1985 | - | - | 196 | 20 | - | - | 216 |
| 1986 | - | - | 260 | 18 | - | - | 278 |
| 1987 | - | - | 318 | 7 | - | - | 325 |
| 1988 | - | - | 353 | 31 | - | - | 384 |
| 1989 | - | - | 464 | 21 | - | - | 485 |
| 1990 | 222 | 25 | 416 | 29 | - | - | 692 |
| 1991* | 248 | 17 | 195 | 4 | - | - | 464* |
| 1992 | 348 | 27 | 529 | 34 | - | - | 938 |
| 1993 | 416 | 35 | 488 | 62 | - | - | 1,001 |
| 1994 | 373 | 43 | 496 | 45 | 42 | - | 999 |
| 1995 first half | 188 | 26 | 279 | 25 | 79 | 5 | 602 |
| total | 1,795 | 173 | 4,077 | 302 | 121 | 5 | **6,473** |

**total VVF-repairs** and related operations: **5,993**

**total RVF-repairs** and related operations: **480**

**total: 6,473**

success rate at VVF closure roughly 90% per operation

success rate at RVF closure roughly 85% per operation

* sabbatical leave consultant for 6 mth

# short notes/checklist on VVF/RVF

by

Kees WAALDIJK

VVF: **V**esico**V**aginal **F**istula, an abnormal connection between the bladder and the vagina: a urine fistula

RVF: **R**ecto**V**aginal **F**istula, an abnormal connection between the rectum and the vagina: a stool fistula

causes:

a. obstetric-necrotic due to obstructed labor, the obstetric fistula
b. surgery: hysterectomy, colporrhaphy, cesarean section
c. malignancy
d. radiation, e.g. in cervix carcinoma
e. trauma
f. congenital malformation
i. infection

Though the obstetric fistula has disappeared from the industrialized world it is very common in the developing world and still accounts for over 85% of all the fistulas world-wide

symptoms:

VVF: continuous leaking of urine from the vagina which cannot be stopped or cleaned

RVF: intermittent leaking of stools from the vagina which can be stopped (unless diarrhea) and cleaned

social acceptance:

therefore the patient with a VVF is socially far less acceptable than the patient with a RVF

social implication:

in Africa it means that the VVF-patient is ostracized from her own society and community and has to live as an outcast

prevalence

a minimum of 2,000,000 still awaiting surgery world-wide of whom at least 80-90% are in Africa

treatment

only surgery by VVF/RVF-repair with different operation technics

prognosis after operation

medically: good
socially: good
psychically: good

# obstetric fistula

incidence of obstetric fistula
- a minimum of 2 per thousand deliveries where the mother survives in situations where there is no ready access to a functioning obstetric service; this means for Africa an annual incidence of some 100,000 new fistula patients
- there is no relation to tribe, religion, culture, early marriage or anything else, except for early intervention by CS within 3 hours

prevalence
- in Africa a minimum of 1,500,000 VVF/RVF-patients awaiting surgery

cause of obstetric fistula
- obstructed labor and/or cesarean section and/or primitive obstetric practices

mechanism of action in obstructed labor
- the fetal head is too big or lies/presents abnormally and gets stuck inside the birth canal; then the soft tissues are compressed between the hard fetal skull and the hard maternal pelvic bones; if this is not relieved within 3 hours by a cesarean section, tissue necrosis (no blood supply!) occurs and a fistula develops

which structures are at risk
- the anterior vagina wall/bladder are more at risk than the posterior vagina wall/rectum; also the lateral vagina walls and deeper intrapelvic structures are at risk

isolated VVF
- this is the rule: 85% of the patients

combination VVF/RVF
- the VVF is in some 15% combined with RVF

isolated RVF
- very seldom except for 3rd degree tear

other intravaginal lesions due to obstructed labor
- always some loss of anterior/posterior vagina wall
- vagina stricture
- vagina stenosis
- vagina shortening
- vagina atresia
- seldomly (partial) loss of cervix/uterus
- loss of labia minora
- (partial) loss of pubococcygeus muscles resulting into bare bones
- secondary amenorrhea due to endometrium trauma

other extravaginal lesions due to obstructed labor
- peroneal nerve palsy due to compression of the sacral plexus of the ischiadic nerve, affecting only the efferent motor fibers

other systemic/local lesions due to prolonged labor
- poor general health and even cachexia due to the enormous trauma of unrelieved obstructed labor over days without help
- pressure sores at sacrum, trochanter major, heel and scapula
- secondary amenorrhea due to blood loss

classification of fistulas according to anatomic/physiologic location

**I** not involving the closing mechanism

**II** involving the closing mechanism
- **A** without (sub)total urethra involvement
  - **a** without circumferential defect
  - **b** with circumferential defect
- **B** with (sub)total urethra involvement
  - **a** without circumferential defect
  - **b** with circumferential defect

**III** miscellaneous, e.g. ureter and other exceptional fistulas

further classification as to size

| | |
|---|---|
| **small** | < 2 cm |
| **medium** | 2-3 cm |
| **large** | 4-5 cm |
| **extensive** | ≥ 6 cm |

The operation becomes more complicated from type I through type IIBb and the prognosis as to closure and continence worsens progressively

preoperative preparation

oral hematinics and high-protein diet; **no** antibiotics

laboratory

Hb/Ht and serum creatinine are recommended

X-rays

not indicated

examination

normal vaginal examination at first visiti and day before operation;
EUA (Examination Under Anesthesia) is nonsense

anesthesia

spinal anesthesia with a long-acting agent, e.g. (hyperbaric) bupivacaine 0.5%

assistance

only the surgeon and one instrumentating operation nurse

special surgical instruments

sharply curved THOREK scissors, sharp aneurysm needle, self-retaining weighted AUVARD vagina speculum, long vaginal instruments

suturing material

chromic catgut and supramid; expensive atraumatic suturing material is not required

position on operation table

exaggerated lithotomy position with legs flexed and slightly abducted in stirrups

operation route
the vagina in type I through IIBb; exceptionally other routes are necessary

accessibility
by median, uni- or bilateral episiotomy

operation
type I: only closure
type IIAa: closure and elevation of bladder neck
type IIAb: circumferential repair by end-to-end vesicourethrostomy
type IIBa: + urethra reconstruction with urethra tissue
type IIBb: + urethra reconstruction from other tissue (bladder?)
type III: ureter implantation or something else

indwelling bladder catheter for 2 weeks
FOLEY Ch 18 or 20

postoperative fluid intake
at least 4-6 l per 24 hours in order to get a good urine flow with a urine output of at least 4000 ml per 24 hours

antibiotics
only on strict indications

prognosis as to closure/continence
progressively worse from type I through type IIBb; type III is not common

main postoperative problem when the fistula is closed
stress and/or urge incontinence
so already at first operation make sure the right technic is performed
UV stricture with overflow

postoperative stress incontinence
vaginal colposuspension + bladder drill

postoperative urge incontinence
only strict bladder drill

UV-stricture with overflow
daily gentle dilatation H3 thru H8 for 2 weeks; anterior UV-tomy

social rehabilitation
only by a successful repair; then it takes place spontaneously

future pregnancies/deliveries
regular antenatal care with delivery in hospital by cesarean section as labor assistance is very poor in most instances

dye test
whenever in doubt (fistula?, incontinence?, which type of incontinence?) instill 20-200 ml gentian violet into the bladder under the motto <u>the dye no lie</u>

# urine incontinence

make sure to get the right diagnosis for the proper plan of action

true incontinence

fistula, ectopic ureters

stress incontinence

urine loss at intraabdominal pressure rise (cough, standing up etc); from grade **I** (minor degree) to grade **III** (total incontinence); normal bladder capacity

urge incontinence

urine loss not related to intraabdominal pressure but to involuntary detrusor activity; small bladder capacity

overflow incontinence

a. UV-stricture with outflow obstruction
b. atonic bladder; large bladder capacity, bladder overfilled

bladder capacity

the bladder capacity may play a role in the outcome of the repair as to continence

on one hand, if the bladder capacity is small urge incontinence may develop

on the other hand, if it is increased stress or overflow incontinence may be expected

the bladder capacity can be estimated according to the **longitudinal bladder diameter** as:

a. small ≤ 4 cm
b. moderate 5-6 cm
c. normal 7-12 cm
d. increased > 12 cm

the longitudinal bladder diameter is calculated as: the distance from external urethra opening to bladder wall (as measured by a calibrated metal sound) minus distance from external urethra opening to balloon of FOLEY catheter (urethra length)

urethra length

this does not seem to play a role in incontinence as even patients with a urethra length of only 1 cm are as a rule continent if the bladder capacity is normal and elevation sufficient

## immediate management of fresh obstetric fistulas

catheter

any patient who starts leaking following childbirth should have an indwelling bladder catheter whatever the cause: fistula, stress incontinence or overflow incontinence (UV-stricture; bladder atony)

by catheter treatment for 4-6 weeks stress/overflow incontinence will heal as well as some 40-60% of the smaller fistulas (up to 2 cm 0 in size)

antibiotics

as the fistula is caused by pressure necrosis and not by infection systemic antibiotics are not indicated routinely just as in bedsores (also pressure necrosis) and burnwounds (thermal necrosis); in burns it is even considered to be against good medical practice

slough/necrosis of larger fistulas

debridement of the slough as soon as possible like in other types of pressure necrosis (bedsores) or thermal necrosis (burnwounds); this is sound surgical practice of all types of necrosis

early closure

as soon as the fistula edge is clean the larger fistulas (and those fistulas not healed by catheter) should be repaired immediately; this is also sound surgical practice as it falls exactly within the time of the physiologic wound healing processes

# classification of fistulas

Kees WAALDIJK

classification of fistulas according to anatomic/physiologic location

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| | |
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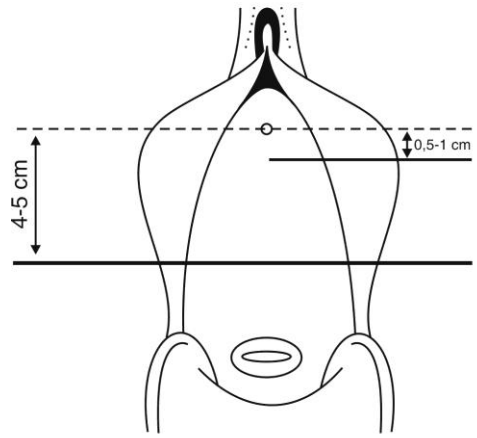
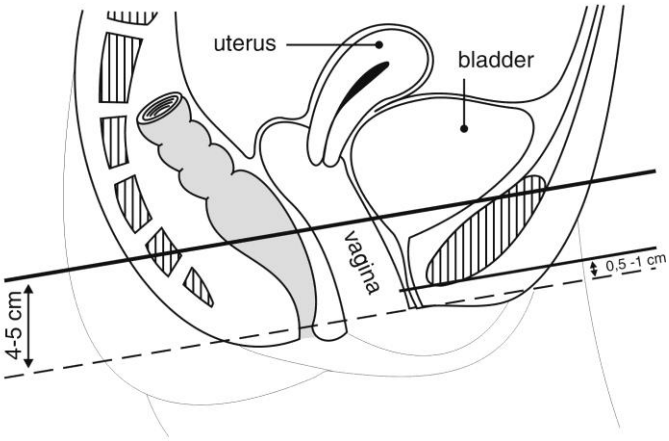
figure 1




continence/closing mechanism: frontal



figure 2




continence/closing mechanism: sagittal



fig. 1 **closing mechanism: frontal**

fig. 2 **closing mechanism: sagittal**

## history taking in fistula patients

how many deliveries:

how many are alive:

how long leaking urine: days/months/years

when did it start following labor: immediately or how many days later

how many days in labor:

where did you deliver: at home or in hospital

cesarean section: yes/no

sex of infant: boy or girl

condition of infant: stillborn, alive and died later, or alive

how long married: months/years

where did you start menstruating: at your parents/husband home

living with husband on same compound: yes/no

still menstruating: yes/no

drop foot: yes/no

which side: R and/or L

for how long: months/years

leaking stools as well: yes/no

how many times operated:

grading of drop foot according to MRC scale

| | |
|---|---|
| 0 | no function whatsoever |
| 1 | just a muscle twitch |
| 2 | minimal muscle movement |
| 3 | muscle movement if gravity is excluded |
| 4 | only slight muscle weakness |
| 5 | normal |

# postoperative instructions and follow-up

## postoperative ward

a. check blood pressure and pulse every 30 min for 4 hours

b. encorage oral fluids, at least 5-6 liters a day

c. check catheter drainage, and if blocked flush it or if this is not successful change the catheter

d. urine should be at least 4000 ml per 24 hours and completely clear

e. no antibiotics, unless specifically ordered

f. fersolate, one tablet ods

g. pack to be removed after 1 day, carefully (otherwise pat will start bleeding)

h. episiotomy/graft sutures to be removed after 7 days

i. catheter to be removed after 14 days in the theater

after removal of the catheter the patient is discharged from the postoperative ward back to the hostel; she has to be instructed to continue drinking and to pass urine every 10 to 15 minutes.

## postoperative follow-up

intravaginal sutures to be removed 1 week after catheter removal

then 2 weeks later check-up

then 1 month later check-up

then 2 months later check-up

then 2-3 months later last check-up; pat can resume sexual activities

at each check-up please ask for the following:

leaking yes/no; incontinence yes/no; normal micturition yes/no

then check for the following:

healed yes/no; stress incontinence yes/no; elevation good/moderate/bad

**whatever you do please write it down on operation report for documentation!**

# documentation of fistula

EUO/F in cm

F/C in cm

location/size of fistula in cm

EUO/F = distance from external urethra opening to fistula

F/C = distance from fistula to cervix (or vagina vault)

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