National VVF Project Nigeria

obstetric fistula surgery training

training of 22 doctors and 27 nurses

5 training workshop sessions of 14 days of 4-6 doctors and 4-8 nurses

under mdg funding

report

kees waaldijk MD PhD

chief consultant surgeon

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Babbar Ruga National Fistula Teaching Hospital
Katsina

Laure Fistula Center
Murtala Muhammad Specialist Hospital
Kano

kees waaldijk MD PhD

chief consultant surgeon

during the 5 training workshops executed so far
over 66 training days

a total of 384 step-by-step operations have been performed
however, only 12 fistulas suitable for trainees

52 clinical and 48 classroom lectures were delivered

22 doctors and 27 nurses followed our introductory course to
the complex trauma of the obstetric fistula

by the end of the training all the patients in the hospital had been attended to and not a single one was left on the waiting list

stress upon the chief trainer surgeon
800 hours minimum
private teaching, organization, documentation reporting

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obstetric fistula surgery training

session 1 + 2 + 3 + 4 + 5

executive summary

considering the short-term 14-day training programme annex workshop this can only be considered as an **intensive exposure** to the **complex trauma of the obstetric fistula** and an **introduction** to the **noble art** of its (surgical) management

each session consisted of 14 consecutive days of recap of the previous day, ward-round, surgery with clinical lectures, questions and answers and classroom lectures, selection of patients and postoperative wardround

at the beginning of the course all the trainees were handed out a cd-rom with 5 books about the obstetric fistula, the global competency-based training manual, a logbook and a questionnaire for active participation, self-study and self-evaluation

since there are 2 operating tables available 2 trainee doctors and 2 trainee nurses were assigned to each table and to one of the 2 operating surgeons

the whole training was executed according to the guidelines of global competency-based training manual

all the trainees were supposed to keep meticulous documentation of what they saw, did and learned in their logbook

on special request by all the trainees spinal anesthesia became part of the training course and all the participants were able to practice

the **good news** is that they were all highly interested, very cooperative and really doing their best to pick up

by the end of the course all the participants had a far better understanding of the complex trauma of the obstetric fistula and its causes and of the urine and stool continence mechanism in the female

the most important lesson they learned was: **immediate** bladder catheterization the moment the leaking of urine becomes manifest

and all of them understood very well that they have to come forward for proper surgical training before they are able to start their own obstetric fistula surgery

the whole training exercise was documented meticulously, e.g. prospective computerized operation reports with prediction as to healing and continence

a **total of 22 doctors** and **27 nurses** attended these sessions, a **total of 384 operations** were performed and a **total of 52 clinical and 48 classroom lectures** were delivered with emphasis on the obstetric trauma in its broadest sense

total time spent by the chief consultant **800 hours private teaching/organization**

obstetric fistula surgery training

introduction

as based on our 35,000 repairs with evidence-based success of 97-98% at closure and the training of 350 doctors and 340 nurses since started in 1984,

we were approached by mdg to train 20 doctors and 20 nurses in the basics of the obstetric fistula and its (surgical) management during a training programme of 14 days

we set out a strategy for this novel type of training to make the most of it and we came up with an intensive training course of some 120-140 hours of theoretical lectures and practical surgical sessions whereby the quality to our patients and to our training will be guaranteed; see annexes

it should be considered an intensive exposure as an introduction to the complicated complex trauma of the obstetric fistula and its (surgical) management

for this we will follow the internationally approved/accepted global competency-based training manual as state-of-the-art guidelines

throughout the training course the accent will be on the quality and not on the quantity; for this we plan 3 operations per operating bed for 12 days; that will be 72 operations during the 2 weeks of training; or a total of 360 operations during the 5 sessions of 2 weeks

continuous monitoring will be provided by mdg, fmoh and ktmoh

a comprehensive evaluation report will be produced at the end of each 2-week training session and for the whole training programme

obstetric fistula surgery training

training module etc etc

day-to-day outline of the progamme

day 1
opening ceremony, introduction of participants, explaining the training to all participants and questionnaire for self-evaluation, tour of the center, introductional lecture about the obstetric fistula in its broadest form

day 2-13

8.00 to 9.00	wardround
9.00 to 14.00	surgery, examination etc
14.00 to 1500	lunch etc
15.00 to 17.00	theoretical lectures, questions & answers about procedures etc
17.00 to 18.00	wardround

day 14
wardround, ?surgery?, explaining the initial questionnaire for self-evaluation, handing out the certificates, evaluation of the programme by trainers, trainees and sponsors, closing ceremony

content of training
history taking, examination, preoperative care
pre-anesthesia care, spinal anesthesia
step-by-step surgery with explanation of the whole complex trauma of the obstetric fistula customized to the individual patient
postoperative care
health counselling right from the beginning when the patient presents herself

training process
2 operating beds with each a trainer + 2 consultant trainees
chief consultant surgeon as supervising the whole process of training: practically and theoretically

self-study by the participants:
study material for the trainees on their own; before starting each trainee will be given a cd-rom with the following:
(surgical) management of bladder fistula in 775 women in Northern Nigeria; phd thesis; 1989
step-by-step surgery of vesicovaginal fistulas; 1994
obstetric fistula surgery; art & science; 2004
25 years of obstetric fistula surgery; report XXV for the years 1984-2008
national vvf project report XXVII for the year 2010

presurgical examination
to confirm fistula, pudendal nerve function + peroneal nerve function, general health, hydration, blood pressure

spinal anesthesia
3 ml heavy bupivacaine 0.5% at L4/L5
monitoring

examination under anesthesia just before surgery is started
all the obstetric intravaginal lesions to be demonstrated, then based on this the fistula is classified, surgical plan of action outlined and performed/demonstrated and prognosis given as to healing and as to continence in 5% range

questions & answers
after each surgical procedure

classroom lectures:
pelvis and pelvis floor anatomy
urine continence mechanism in the female
stool continence mechanism in the female
the complex trauma of obstetrics in relation to pelvis and pelvis floor
immediate management by catheter and early closure
classification of urine fistulas as related to the obstetric trauma
classification of stool fistulas as related to the obstetric trauma
principles of surgery according to classification with prognosis as to closure and continence
urine incontinence as related to defects in the pubocervical fascia with consequences for continence surgery
genuine urine incontinence as related to defects
prevention of postrepair incontinence with reconstructive steps during the repair
conservative management of postrepair incontinence
reconstructive surgical management of postrepair incontinence
preoperative preparation
the importance of high oral fluid intake pre- and postoperative
spinal anesthesia

data collection and data management
since data are very important in monitoring and the management and the project as a whole, special emphasis will be placed on how to collect which data and how to manage the data

training modules
during the whole training period the isofs-figo-rcog manual will be used as objective standard of international state-of-the-art training in a prospective way also to test the manual in a critical way

training time
since the training will be 10 hours a day for a full 14 days this will amount to 120-140 hours of individual training which is comparable to 4 week-training of 35 hours per week compressed within 14 days

at the very end the same questionnaire will be explained for self-evaluation by all participants

from now onwards
operation report added to
other particulars and
handed over to the patient
since that is

where they belong

and for other doctors to read
at subsequent pregnancies

and to take appropriate action
at subsequent deliveries

obstetric fistula surgery training

Babbar Ruga National Fistula Teaching Hospital
Katsina

first session as pilot

training of 4 consultants and 4 nurses

from monday 30.05 thru sunday 12.06

logbook

sunday 29.05
14.00 to 17.00 discussion with trainers about how to process

monday 30.05
7.00 preparation of facilities
14.00 arrival of tranees, again discussion with trainers, extensive discussions with staff of FMOH
selection of patients for the training workshop
20.00 further discussions with FMOH staff

day 1
tuesday 31.05
6.30 preparation of the hospital
10.00 small opening ceremony, introduction of participants, explaining the training to all participants, tour of the center, mobilizing the funds
12.00 surgery with step-by-step teaching
1 state-of-the-art lecture and demonstration of reconstructive surgery in surgery sphincter ani rupture with preoperative theoretic explanation, explanation and demonstration of spinal anesthesia, **step-by-step** reconstruction of internal sphincter (anorectum), end-to-end reconstruc tion of sphincter ani and repair of perineal body with (in)direct re-union of transversus perinei and posterior re-union of bulbocavernosus muscles in para VI (5 alive)
2 state-of-the-art lecture and demonstration of fixation of cervix onto L superior pubic bone ramus/arcus tendineus fascia/obturator internus muscle against levator ani muscle as mini-invasive uterus-sparing proce dure for total 3° cervix prolapse in para II (all alive)
15.00 four lectures
a sphincter ani rupture; a complex trauma
b total 3° cervix prolapse
c the obstetric fistula in its broadest sense
d questions & answers about procedures and lectures
17.30 wardround of postoperative patients
19.00 end of the working day

day 2
wednesday 01.06.11

8.00 recap of the previous day by dr nasir garba from fmc azare
8.30 wardround
9.00 surgery: with step-by-step teaching
3 state-of-the-art lecture and demonstration of sphincter ani rupture again demonstration by chief surgeon/trainer of how to handle the systematic step-by-step reconstructive surgery of the sphincter ani rupture with theoretic teaching of the stool continence mechanism in the female according to the functional anatomy with the emphasis on the internal smooth-muscle sphincter in para VIII (7 alive)
4 repair pof type **IIAa** fistula as anteriolateral trauma at R as second obstetric fistula in para VI (0 alive)
5 type **IIAa** uvvf-repair by trainee doctor under direct supervision/assis tance of chief surgeon in para I (0 alive)
6 bilateral ureter catheterization + uvvf-repair + bilateral fascia fixation as type **IIAa** in para IV (3 alive)
7 catheterization R ureter and **early closure** of type **IIAa** in para XIV (9 alive)
8+9 combined uvvf + cs-vcvf-repair in para II (1 alive)
10 complicated type **IIAa** fistula repair + bilateral fascia fixation in para IX (0 alive) with severe postpoliomyelitis syndrome R leg
15.00 handing out the isofs-figo-rcog training manual and questionnaire for self-evaluation to all participants
no lecture in order to allow the participants to fill out the questionnaire
discussion of the programme + forming teams for better postoperative care by dr said ahmad; it was agreed upon that each team would stay in the postoperative ward up till 20.30 for supervising the immediate postoperative care
17.30 postoperative wardround
17.30 logbook discussion with trainee doctor about her own repair
18.00 selection of patients for next day
19.00 end of the day

day 3
thursday 02.06

6.30 preparations for the day
8.00 recap of the previous day by dr idris ahmed from fmc keffi
8.30 extensive postoperative wardround
10.00 surgery with step-by-step teaching
11 state-of-the-art lecture and demonstration of uterus-sparing fixation of cervix in 3° total cervix prolapse in para VII (5 alive)
12 continent urethra(lization) reconstruction in type **IIBa** mutilated yankan gishiri fistula in 69-yr-old P0 bco congenital condition
13 type **IIAa** uvvf-repair by trainee doctor under direct supervision/assis tance by chief surgeon in para II (all alive)
14 type **IIAa** uvvf-repair by trainee doctor under direct supervision/assis tance by chief surgeon in para XI (9 alive)
15 extensive type **IIBb** uvvf-repair as **first stage** in para IX (4 alive)
16.00 two lectures
17.30 postoperative wardround
logbook discussions with tranee doctors about their own procedure
19.00 end of the day

day 4
friday 03.06

6.30 screening of patients
8.00 recap of previous day by dr sadiya nasir from uduth
8.30 wardround
9.00 surgery with step-by-step teaching

16 state-of-the-art lecture and demonstration by chief surgeon of surgery for total **post IIAb** repair total **incontinence:** urethralization by bilateral (re)fixation of pubocervical fascia fixation onto paraurethra_euo atf in para I (0 alive)

17 demonstration of fistula in advanced cervix carcinoma as another cause of fistula

18 type **IIAa** uvvf-repair by trainee under direct supervision/assistance by chief surgeon in para I (alive)

19 state-of-the-art lecture and demonstration by chief surgeon of cir cumferential fistula type **IIAb:** circumferential repair with bilateral ureter catheterization, end-to-end vesicourethrostomy and bilateral refixation of pubocervical fascia onto paraurethra_euo atf in para I (0 alive)

20 type **I** vcvf-repair of **new 2nd** obstetric fistula 14 years after successful cs-vcvf-repair in babbar ruga in 1997 in para V (0 alive)

21 + 22 type **I** vcvf-repair as **first stage** + type **Ib** rvf-repair with blunt disruption of rectum stricture in pat with multiple 3 fistulas in para VI (3 alive)

23 type **I** vcvf-repair in para V (0 alive)

24 complicated type **IIAa** uvvf-repairby trainer operated already 2x in niger in para VIII (6 alive)

13.00 break
16.30 **four** lectures

e fistulas for beginners

f pelvis anatomy + pelvis floor anatomy: arcus tendineus fasciae, pubo cervical fascia, levator ani muscle etc etc

g obstetric trauma in relation to pelvis inlet and pelvis floor structures

h exceptional obstetric vulva trauma/sphincter ani rupture/atonic bladder + its surgical management

17.45 postoperative wardround
logbook discussion with trainee doctor about his own operation
19.00 end of the day

day 5
saturday 04.06

6.30 selection of patients + preparations for the day
8.00 recap of previous day by mrs rosemary obiorah
8.30 wardround
9.00 surgery with step-by-step teaching

25 state-of-the-art lecture and demonstration by chief surgeon of recon struction of **mutilated** sphincter ani rupture **IIb** already operated 3x with severe introitus stenosis in para II (all alive)

26 transurethral stone removal as first stage for **third** fistula as preparation for continent urethra reconstruction as **2nd** stage in para XI (6 alive)

27 highly complicated ps-like mutilated type **IIBb** fistula repair as **last resort final** in para I (0 alive) operated 2x by incompetent surgeons

28 catheterization R ureter and repair of type **IIAa** fistula in para I (0 alive)

29 repair and transverse fascia repair in **mutilated** type **IIAa** fistula in para III (0 alive) operated 2x
30 vvf-repair of type **I** fistula in para III (0 alive) operated 1x
31 early closure of type **I** fistula in para VII (4 alive)

16.00 **2 lectures**
i classification of vvf with results in 1,716 patients
j pubocervical fascia defect obstetric and incontinence

17.00 wardround

17.00 selection of partients for next day

19.00 closure of the day

day 6
sunday 05.06

7.00 preparations for the day

8.00 recap by mrs binta adamu garba

9.00 surgery with step-by-step teaching
32 state-of-the-art lecture and **step-by-step** demonstration of recon structive surgery for sphincter ani rupture already operated 2x
33 repair of type **I** fistula by trainee doctor under direct supervision/assis tance by chief surgeon in para VIII (5 alive)
34 repair and fascia repair/bilateral fixation of residual type **IIAb** lungu fistula in para I (0 alive)
35 urethralization by bilateral fascia fixation in total post **IIAb** intrinsic_ stress incontinence grade III in para I (0 alive)
36 assessment of type **I** cs-vcvf in para VIII (4 alive) with severe obesity and fistula high up in vagina; first to slim down
37 bilateral fascia fixation in total post **IIAa** intrinsic_stress incontinence in para I (0 alive)
38 repair + bilateral fascia fixation in large type **IIAa** fistula in para VI (2 alive)
39 uvvf-repair + transverse fascia repair of type **IIAa** fistula in para VII (0 alive) leaking 17 yr since delivery I and operated 1x elsewhere

16.30 no lectures since it is sunday

16.30 wardround

16.30 closure by participants
selection of patients for next day

18.00 closure of the day

day 7
monday 06.06

700 preparations for the day

800 recap by dr idris ahmed (sphincter ani reconstruction) and by mrs okoye s lami

900 surgery with step-by-step surgery
40 state-of-the-art lecture and step-by-step demonstration of cervix fixation in total 3° cervix prolapse in para IX (8 alive)
41 type **IIAb** repair by trainee doctor under direct supervision/assistance of chief surgeon/trainer in para VI (4 alive)
42 early closure and transverse fascia repair of type **IIAa** fistula by trainee doctor
43 assessment by methylene blue iv/and dye test in 13-yr-old girl suspected of ectopic ureter
44 tah-cs-vcvf-repair as **second stage** after successful uvvf-repair as first stage in para VI (3 alive)

45 catheterization L ureter and cs-vcvf-repair in type **I** fistula not healed by catheter in para X (2 alive)
46 early closure of type **I** tah-cs fistula in para II (all alive)
47 bilateral fascia fixation in total post **IIAa** intrinsic_stress incontinence in para I (0 alive)

16.00 lectures
k prevention of postrepair stress incontinence

17.00 postoperative wardround
logbook discussion with 2 trainees doctor about their own repair

17.30 selection of patients

18.30 end of the day

day 8
tuesday 07.06

7.00 preparations for the day

8.00 recap by dr sunday e adaji

830 wardround

900 surgery with step-by-step teaching
48 state-of-the-art fixation of cervix in total 3° cervix prolapse in para VI (3 alive)
49 repair of residual type **IIAa** fistula after early complicated closure in para VIII (4 alive)
50 repair of type **I** tah-cs fistula in para VII (0 alive)
51 state-of-the-art lecture and **step-by-step demonstration** of bilateral ureter catheterization and circumferential bladder fixation into euo as first step in reconstructive surgery of **mutilated extensive** type **IIBb** fistula operated 1x in para I (0 alive)
52 uvvf-repair with fascia repair of type **IIAa** fistula in para XIII (8 alive)
53 bilateral ureter catheterization and closure of type **I** cs-vcvf fistula in para X (6 alive)
54 type **I** cs-vcvf fistula repair as **second stage** after successful closure of uvvf as **first stage** in para IV (3 alive)
55 residual type **IIAa** fistula closure in second obstetric fistula in para II (1 alive) operated 1x

1600 lectures
l immediate management of the obstetric fistula by catheter and/or early closure

17.00 wardround and selection of patients

18.30 end of working day

day 9
wednesday 08.06

700 preparations for the day

800 recap by mrs lami sa osori

830 wardround

900 surgery with step-by-step teaching
56 demonstration of catheter for immediate management in 5-day-old fistula in para X (3 alive) with second obstetric fistula
57 state-of-the-art urethra reconstruction as second step after **nicely healed** fixation of bladder into euo as first step in type **IIBa** yankan gishiri fistula in para 0
58 excision of scar tissue and repair of type **IIAa** fistula with objective stress incontinence by trainee under direct supervision in para IV (0 alive)

59 transverse fascia repair and bilateral fixation as **last resort** in total post **IIAb** intrinsic_ stress incontinence in para III (0 alive) with **third consecutive** obstetric fistula/leakage
60 ps-like rvf repair of large type **Ic** rectovaginal fistula as **minimum surgery** after successful closure of extensive type **IIAb** urine fistula in para II (0 alive)
61 closure of type **IIAa** fistula after bladder stone removal in para IX (4 alive)
62 complicated repair of **mutilated extensive** type **IIAa** fistula in para III (1 alive) operated 2x by inexperienced surgeons
63 early closure of type **IIAa** fistula as **second** obstetric fistula in PXI (2 alive)
64 last resort final uvvf-"repair" with euo-rhaphy after already **last resort final** repair in **mutilated extensive** type **IIAb** fistula in PI (0 alive)

17.00 no lectures since problems with projector
17.30 postoperative wardround
17.30 selection of patients
18.30 end of the day

day 10
thursday 09.06

7.00 preparations for the day
800 recap by dr nasiru garba
830 wardround
900 surgery with step-by-step teaching
65 demonstration of what can go wrong in inexperienced hands
66 demonstration of closure with bilateral fascia fixation in post IIAb intrinsic incontinence with minute fistula in para I (0 alive)
67 early closure of type **IIAa** fistula by trainee doctor under personal supervision/assistance by chief surgeon in para X (4 alive)
68 last resort final shortening euo-plasty with bilateral fascia fixation in total post extensive **IIBb** repair intrinsic_stress incontinence in para I (0 alive)
69 continent urethra/avw reconstruction in total post **extensive IIAb** urine intrinsic_stress incontinence in para I (0 alive)
70 vaginal removal of impacted bladder stone with small fistula after multiple repairs in para I (0 alive)
71 urethralization and bilateral fascia fixation in total post **extensive IIBb** urine intrinsic_stress incontinence in para VIII (7 alive)
72 bilateral fascia fixation in total post **IIAb** urine intrinsic_stress incontinence in para VI (3 alive)
73 dilatation + foley ch 18 in acute urine retention due to uv-stricture after multiple repairs and deliveries in para III (0 alive)
74 catheter treatment for total postpartum post **IIAb** incontinence grade III in para IX (2 alive) as **second** obstetric leakage
75 catheter treatment for total postpartum incontinence grade III and stool/flatus incontinence and saddle anesthesia due to sacral plexus trauma in para I (0 alive)

16.00 lectures dr hallriu
m vvf in Nigeria
n preoperative preparation
17.30 postoperative wardround
logbook discussion with 2 trainee doctors about their own repair

18.00 selection of patients
19.00 end of the day

day 11
friday 10.06
7.00 preparations for the day
8.00 recap by dr idris ahmed
8.30 wardrouind
9.00 surgery with step-by-step teaching
76 demonstration of minimum surgery for rvf type **Ic** as preferred by patient in totally mismanaged vvf- and rvf patient with colostomy and suprapubic catheter for 5 yr in para III (1 alive)
77 state-of-the-art fixation of cervix in total 3° cervix prolapse in para V (4 alive)
78 last resort final bilateral pcf/avw fixation in post extensive "inoperable" type **IIBb** intrinsic_stress incontinence grade III in para I (0 alive)
79 last resort final bilateral pcf fixation in total post **IIAb** urine intrinsic_ stress incontinence after multiple repairs in para I (0 alive)
80 bilateral fascia fixation in total post **extensive IIBb** urine intrinsic_ stress incontinence after multiple repairs in para I (0 alive)
81 uvvf-repair + euo-rhaphy in **inoperable IIBb** fistula after somebody cut her up for ba hanya after successful repair in para I (0 alive)
82 urethralization by bilateral fascia fixation in post **extensive IIAb** urine intrinsic_stress incontinence in para I (0 alive)
13.00 break
16.00 lecture by dr said ahmad
o postoperative care
17.30 wardround
17.00 dr chris osa from FMOH arrives
17.30 selection of patients
19.00 end of the day

day 12
saturday 11.06
7.00 preparations for the day
8.00 recap by ms binta garba
8.30 wardround
9.00 surgery with step-by-step teaching
83 state-of the-art demonstration of advancement/circumferential fixation of bladder into euo in **extensive** type **IIBb** fistula as first stage in ba hanya in para I (0 alive)
84 bilateral fixation of pc fascia onto para-euo atf as **last resort final** procedure in post **IIAb** total instrinsic_stress incontinence after vvf/rvf-repair in para II (0 alive)
85 uvvf-repair + euo-rhaphy in type **IIAa** fistula in para VI (1 alive) after operation elsewhere
86 vvf-repair of type **I** fistula caused by caustics for reasons unknown in para XI (4 alive)
13.00 evaluation of the training programme by trainees and trainers
small closing ceremony
handing out certificates to participants
farewell wishes
15.30 participants left hospital

17.00 wardround
18.00 selection of patients
19.00 end of working day

day 13
sunday 12.06

participants travelled home and routine returned
900 surgery
87 ps-like 4/5 circumferential uvvf-repair as **minimum surgery** of **new second** obstetric **extensive** type **IIBb** fistula in para VII (1 alive) who had a successful repair post delivery III (0 alive)
88 complicated ps-like uvvf-repair as **last resort final** of **extensive** type **IIAb** fistula in para I (0 alive) operated 3x elsewhere and leaking for 25 yr with extensive anteriobilateral trauma and long-standing non-drink ing
14.00 chief sugeon travelled to kano for surgery and for organizing the second session starting monday 27th of June 2011
17.15 arrival at hotel and end of working day

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kees waaldijk MD PhD 21st of June 2011
chief consultant surgeon

participants

dr idris ahmad	chief medical officer	fmc	keffi
mrs rosemary obiorah	acno	fmc	keffi
dr sadiya nasir	consultant obs&gyn	uduth	sokoto
mrs lami s a osori	acno	uduth	sokoto
dr nasir garba abdullahi	consultant obs&gyn	fmc	azare
ms binta adamu garba	sno	fmc	azare
dr sunday eneme adaji	consultant obs&gyn	abuth	zaria
mrs lami s okoye	acno	abuth	zaria

trainers

dr said ahmad	consultant obs&gyn	jahun vvf center
dr idris a halliru	moh	katsina

facilitators pre-, intra- and post-operative care

dr abdulmajid mudasiru	cmd	babbar ruga hospital
alh abdullahi haruna	cno	
alh kabir k lawal	cno	
alh gambo lawal	cno	
hajiya adetutu ajagun	cno	
hajiya amina mamman	cno	

chief trainer

dr kees waaldijk	chief consultant surgeon	babbar ruga hospital

obstetric fistula surgery training

second session

Laure Fistula Center
Murtala Muhammad Specialist Hospital
Kano

training of 4 consultants and 5 nurses

from monday 27.06 thru sunday 10.07.11

logbook

day 0
sunday 26.06
katsina

7.00	catheter treatment 6x + surgery 3 operations + administration
14.00	traveling of chief surgeon by road to kano
17.15	arrival at hotel
17.30	supposed arrival of participants but only 2 turned up

day 1
monday 27.06

7.00	preparation of facilities
9.00	introduction of participants, explaining the training to all participants, explaining the logistics/financial implications by representative of FMOH
10.00	surgery **89+90 complicated** bilateral ureter catheterization + uvvf-repair + bilateral pcf fixation of type **IIAa** fistula and rvf-repair of type **Ia** fistula in one patient para III (0 alive) **91** continent euo rhaphy/urethra/pcf/avw reconstruction as **last resort** in para I (0 alive) following urethra/rvf-repair after yankan gishiri fistulas and then uvvf-repair of **obstetric** type **IIBa** fistula **92** uvvf-repair of type **IIAa** fistula in para I (0 alive)
13.00	selection of patients for the training workshop
14.30	postoperative wardround
15.00	end of the working day

day 2
tuesday 28.06

7.00	preparations for the day
8.00	wardround

8.30 surgery with step-by-step teaching

93 state-of-the-art lecture and demonstration of reconstructive surgery in **mutilated** sphincter ani rupture **IIb** with preoperative theoretic teaching of the stool continence mechanism, explanation and demonstration of spinal anesthesia, **step-by-step** reconstruction of internal sphincter (anorectum), end-to-end sphincter ani reconstruction ani and repair of perineal body with (in)direct re-union of transversus perinei and bulbocavernosus muscles in para I (1 alive) already operated 2x, now 58 days post partum

94 repair of minute tah-cs type **I** fistula by **early closure minimum surgery** in para XII (8 alive)

95 repair of **extensive** type **IIBa** fistula as result of **infection (boil)** at 3 yr of age, leaking for 33 years, as **first stage minimum surgery** in para VI (1 alive)

96 continent urethra/fascia/avw reconstruction of type **IIBb** operated 2x in para I (0 alive) with severe scarring, poor-quality tissue and total cervix fixation pulling on repair

97 complicated 4/5 circumferential uvvf-repair of type **IIAb** fistula in para I (0 alive)

98 vvf-repair of type **I** fistula as **early closure** in para IX (3 alive) due to anterior trauma

99 repair of type **I** fistula in para IV (1 alive)

lecture

a. stool continence mechanism, pathophysiology and development of sphincter ani rupture as **cut-thru** trauma and systematic reconstruction of the functional anatomy in this complex trauma

14.00 selection of patients

15.30 wardround of postoperative patients

16.15 end of the working day

day 3
wednesday 29.06

7.00 preparations for the day

8.00 wardround

8.30 surgery: with step-by-step teaching

100 state-of-the-art lecture and demonstration of cervix/pcf fixation onto levator ani muscle fascia thru superior pubic bone periost/atf/atl/internal obturator and levator ani muscles in para IV (3 alive) with total 3° cervix prolapse for 9 yr which started spontaneouöls after delivery I at 16 yr of age

101 end-to-end reconstruction of small anterior sphincter ani defect + perineal body reinforcement as **last resort** in severely obese para IX (all alive) complaining about tusa pv

102 early closure minimum surgery with transverse pcf repair/bilateral fixation of type **IIAa** or **IIBa** fistula in para I (0 alive)

103 early closure of **retracted** type **IIAa** fistula within 4x1 cm pcf defect by trainee doctor under direct supervision of chief surgeon in para II (1 alive)

104 uvvf-repair of type **IIAa** fistula as **early closure** in para I (0 alive) due to anterior trauma

105 complicated repair of **mutilated** type **IIBa** fistula in para VI (4 alive) operated once elsewhere

106 urethra reconstruction of **mutilated** type **IIBa** fistula in para I (0 alive) already 3x operated elsewhere

107 catheter treatment of **necrotic** type **IIAa** fistula of 10-day duration in para I (0 alive)
lecture
b physiopathology and development of total 3° uv prolapse in relation to pelvis (span too wide), sacrouterine ligaments and pubocervical fascia with **mini-invase** uterus-sparing fixation

15.00 selection of patients
16.00 wardround of postoperative patients
logbook discussion with tranee doctors about his own procedure
16.30 end of the working day

day 4
thursday 30.06

7.00 preparations for the day
8.00 wardround
8.30 surgery with st ep-by-step teaching
108 state-of-the-art lecture and demonstration of uterus-saving fixation of cervix/pcf in 3° total cervix prolapse with total intrinsic-stress incontinence grade III in para III (1 alive)
109 urethralization by longitudinal fascia repair/bilateral para-euo fixation of total post **IIBb** postdelivery urine intrinsic-stress incontinence as **last resort** in para VI (1 alive) with **3rd obstetric leakage/fistula** who still delivered at home after 2 days of labor
110 + 111 urethralization + pcf fixation as **last resort** in **mutilated** total post **IIAb** intrinsic–stress incontinence grade III and rvf-“repair” in **mutilated** type **Ia** rvf in para I suffering for 7 yr and operated 4x elsewhere
112 dilatation, repair and pcf refixation of minute type **Ab** fistula with seve re uv-stricture as **second obstetric** fistula in para II (0 alive) after suc cessful circumferential repair after delivery I
113 repair of residual type **IIAb** fistula in para XI (7 alive) after **complica ted** repair after 1x operation elsewhere
114 bladder neck elevation by pcf fixation in total post **IIAb** urine intrinsic-stress incontinence in para II (0 alive) being completely ok for 1.5 yr until period of lower abdominal pain/fever (?miscarriage?)
115 repair of residual lungu fistula R after proximal pouch of **extensive in operable IIAb** fistula since everything fixed in para VI (3 alive) with rvf **healed**
116 repair of recurrent type **IIAb** fistula after urethralization for post IIAb total urine intrinsic_stress kincontinence in para I (0 alive)
bladder neck elevation in total post **extensive IIAb**; rvf **healed**
15.30 postoperative wardround
16.00 end of the working day

day 5
friday 01.07

7.00 preparations for the day
8.00 wardround
8.30 surgery with step-by-step teaching
117 + 118 state-of-the-art lecture and demonstration early closure of type **IIAa** fistula with special emphysis on the urine continence mecha nism in the female and **step-by-step** reconstruction of anorectum, sphincter ani with adaptation of perineal body with special emphasis on the stool continence mechanism in the female in para I (alive) with **inflammation/ contamination ++** after immediate suturing pp

119 repair of type **IIAa** fistula as **early closure** immediate management in para I (0 alive with ar neg and flatus incontinence

120 uvvf-repair of type **IIAa** in para II (1 alive) already operated 1x else where

11.30 chief surgeon travelled back to katsina

15.00 arrival in babbar ruga hospital

18.00 end of the working day

day 6

saturday 02.07

katsina

7.00 selection of patients + preparations for the day

121 catheter treatment of large **necrotic** type **IIAa** fistula with **necrotic** type **Ia** rvf in para II (1 alive) leaking for 6 days

122 catheter treatment of small type **IIAa** fistula within 4x1 cm transverse avw trauma/pcf defect in para III (1 alive) with anterior sphincter ani trau ma; leaking for 2 mth

123 catheter treatment of extensive type **IIAb** fistula, **necrotic** proximal pvw and total breakdown of episiotomy L with visible stool incontinence of 12-day duration

124 catheter treatment of small **scarred** type **IIAa** fistula of 21-day dura tion following yankan gishiri by wanzami bco not sleeping with husband in 13-yr-old para 0

125 first bladder drill for 2-4 weeks for urge incontinence **++** in 13-yr-old para 0 (already divorced by husband) who started to leak 7 yr ago following period of high fever; if not responding then for further examina tion/decision

126 primary suturing **minimum surgery** of **severely mutilated** type **IIAa** fistula following vaginal hysterectomy bco total 3° cervix prolapse in para VIII (4 alive)

127 assessment of **extensive** type **IIBb** fistula due to **total circumferen tial trauma** in para I (0 alive); **inoperable now** since everything fixed at 71–day duration; probably **"operable"** after 6-8 mth since good bladder capacity; (sub)total avw loss

128 complicated repair of type **I** tah-cs-vcv fistula as **second** obstetric fistula in para III (1 alive); due to **severe obesity**

129 distal urethra_euo reconstruction as **last resort** in post **IIBb** total urine intrinsic_stress incontinence in para I (0 alive); both urine/stool fistulas **healed**

130 closure of sigmoidostomy (elsewhere) after successful type **Ib** recto vaginal fistula repair in para I (0 alive) also with **extensive inoperable** type **IIBb** urine fistula

8.00 wardround

8.30 surgery

17.00 wardround

17.15 selection of partients for next day + administration

19.00 end of working day

kano no operations since all the staff of kano state is due for personal screen ing of their employment particulars

day 7

sunday 03.07

katsina

7.00 preparations for the day

8.00 wardround

8.30 surgery with step-by-step teaching
131 state-of-the-art bilateral ureter catheterization and repair with trans verse fascia repair of large yankan gishiri type **IIAa** fistula bco total 3° cervix prolapse; **nb** she was planned for cervix fixation but decided to go for yankan gishiri by wanzami
132 continent **state-of-the-art** urethralization of total post **IIBb** urine intrinsic-stress incontinence in para I (0 alive) leaking for 14 years; 5x operated also for rvf; with repair of dehiscent perineal body for better configuration of both urine/stool continence mechanisms
12.30 wardround
13.30 traveling of chief surgeon by road to kano
17.00 arrival in hotel

kano no operations since clinic day
12.00 wardround
12.30 screening of new patients including history, examination, height etc and instructions about personal hygiene and drinking
examination of patients coming for follow-up at different stages following their repair
17.00 end of the working day

day 8
monday 04.07
700 preparations for the day
800 wardround
8.30 surgery with step-by-step teaching
133 state-of-the-art continent urethralization/fascia/avw reconstruction for **third consecutive** obstetric **leakage** now post **IIBb** delivery total urine intrinsic-stress incontinence in para III (1 alive) as **last resort**; had successful uvvf/rvf-repair for extensive obstetric trauma during delivery I
134 step-by-step teaching of 4/5 circumferential vesicourethrostomy with transverse fascia repair/bilateral refixation onto paraurethra_euo atf of type **IIAb** fistula in para I (0 alive) not healed by catheter treatment
135 state-of-the-art circumferential dissection and circumferential bladder fixation into “euo” as **first stage** in reconstruction of extensive type **IIBb** fistula whereby bladder neck slipped upwards and got fixed to cephalad brim of symphysis in para I (0 alive) as part of **immediate** management; if necessary for continent urethra/fascia reconstruction as **second stage**
136 repair of type **IIBa** fistula as first stage in para I (0 alive) operated 1x elsewhere
137 catheter treatment of total postpartum urine intrinsic-stress inconti nence grade III in para I (0 alive) leaking for 17 days
138 catheter treatment of total postpartum urine intrinsic-stress inconti nence grade III in para I (alive) leaking for 8 days
13.30 selection of patients
14.00 lectures
a the complex trauma of the obstetric fistula
b pelvis anatomy and pelvis floor anatomy
c the pressure gradient of obstructed labor in relation to pelvis floor structures
15.00 postoperative wardround
15.30 end of the working day

day 9
tuesday 05.07

7.00 preparations for the day
8.00 wardround
8.30 surgery with step-by-step teaching
139 state-of-the-art lecture + **step-by-step** demonstration of urethraliza tion by longitudinal fascia repair of 6x2 cm median defect with bilateral retraction + bilateral fixation to para-euo atf of **genuine** postpartum total urine intrinsic-stress incontinence grade III in para I (alive) leaking urine for 1 yr; with urethra length of 0.4 cm
140 minimum surgery for **severely mutilated** type **IIAa** fistula in para I (0 alive) from ondo state after abdominal repair and vaginal repair else where; leaking for 14 yr
141 complicated repair of **mutilated** sth-cs type **I** fistula in para VIII (4 alive) operated 2x; leaking urine for 15 yr; for rvf-repair as 2nd stage
142 assessment under anesthesia of **inoperable extensive** 1 cm 0 type **IIAb** fistula operated 10 yr ago as **last resort final** with only one try possible; rvf **healed**
143 repair of type **I** fistula in para I (0 alive)
13.00 selection of patients
14.00 lectures
d obstetric pubocervical fascia defects
e sphincter ani rupture; a complex trauma
f fistulas for beginners
15.00 wardround
15.30 end of the working day

day 10
wednesday 06.07

7.00 preparations for the day
8.00 wardround
8.30 surgery with step-by-step teaching
144 demonstration of what goes wrong if the trauma is not understood well and what to do **step-by-step** to correct it in residual sphincter ani rupture type **IIb** in para II (all alive) repaired 1x; the **meticulous repair** of the internal sphincter cannot be overstressed
145 state-of-the-art continent urethra/fascia/avw reconstruction **second stage** after nicely healed circumferential bladder fixation as **first stage minimum surgery** of **extensive** type **IIBb** fistula in para I (0 alive)
146 + 147 catheterization R ureter and repair of large type **IIAa** fistula with re-inforcement of sphincter ani + perineal body in para V (2 alive) opera ted 2x for sphincter ani rupture
148 uvvf-repair as **early closure** of type **IIAa** fistula in para I (0 alive); lea king 28 days
149 closure of recurrent type **IIBa** in para IX (all alive) following success ful closure and then urethralization; went for another surgery with this fistula as result
150 urethralization by fasciorrhaphy and bilateral fixation of pc fascia in post **extensive IIAb** total urine intrinsic-stress incontinence in para I (0 alive) leaking urine for 11 yr
14.00 selection of patients
no lectures since participants left us to collect their salary for june
14.45 postoperative wardround
15.15 end of the working day

day 11
thursday 07.07

7.00 preparations for the day
8.00 wardround
8.30 surgery with step-by-step teaching
151 lecture and demonstration of the **complicated** repair of **minute** type **IIAa** fistula with **objective** total urine intrinsic_stress incontinence where the dye was needed to indentify the fistula after dissection/excision of scar tissue in para VI (1 alive) leaking for 5 yr
152 continent urethra/fascia/avw reconstruction as **last resort** in **second** now **extensive** type **IIBb** fistula in para II (0 alive) after successful clo sure + urethra reconstruction after delivery I
153 + 154 assessment of **inoperable mutilated** type **IIBb** fistula and **inop erable** type **Ia** fistula in para I (0 alive) leaking urine/passing stools pv for 20 yr and operated 1x in university teaching hospital; **severe stone-hard fibrosis/scarring**
155 vvf-repair as **early closure** of type **I** fistula in para II (0 alive) leaking for 39 days
156 gradual dilatation of severe introitus stenosis and catheter treatment of overflow incontinence due to atonic bladder in para I (0 alive)
14.00 lectures
g clinical lecture + demonstration of the complexity of minute fistulas
h spinal anesthesia and its advantages by dr idris suleiman abubakar
15.00 postoperative wardround
15.30 end of the working day

day 12
friday 08.07

7.00 preparations for the day
8.00 wardrouind
8.30 surgery with step-by-step teaching
157 uvvf-repair with bilagteral pcf (re)fixation of **second obstetric** type **IIBb** fistula after successful urethra/avw reconstruction 15 years ago in para II (0 alive)
158 repair of **third obstetric** intracervical type **I** in para VII (3 alive) after catheter treatment post delivery IV and cs-vcvuvf-repair post delivery VI; **nb** patient reported to hospital for booked elective cs, she spent 2 days in the hospital and then delivered vaginally without any action taken
159 urethra reconstruction of **extensive** type **IIBb** as **last resort final** in para I (0 alive) operated 3x; the problem: right from the beginning she presented with severe scarring/fibrosis with vagina depth of only 4 cm
11.00 lectures
i pre-, intra- and post-operative care by dr amir imam yola
11.45 postoperative wardround
12.00 end of the working day so that everybody can prepare for the mosque

day 13
saturday 09.07

7.00 preparations for the day
8.00 wardround

8.30 surgery with step-by-step teaching
160 demonstration of longitudinal repair of 4x1.5 cm pc fascia defect with bilateral refixation onto paraurethra-euo atf + excision of mutilated avw in post **IIAb** total urine intrinsic-stress incontinence grade III in para I (0 alive)
161 final assessment under spinal anesthesia of **inoperable** type **IIBb** fis tula after successful rvf-repair in para I (0 alive) due to **severe scarring/ everything fixed**
162 disobliteration of neourethra with uvvf-repair of **second** obstetric type **IIBb** fistula in para IV (0 alive)) who delivered at home after a 3-stage repair of extensive fistula post delivery III
163 repair of type **IIa** rvf as **first stage** in para I((0 alive) with also **extensive** type **IIBb** fistula operated 1x elsewhere and leaking/passing stools pv for 16 yr
164 uvvf-repair of **second** obstetric type **IIAb** fistula in para III (0 alive) who delivered at home ("miscarriage" of sb male) after successful repair post delivery I

12.00 evaluation of the training programme by trainees and trainers
small closing ceremony
handing out certificates to participants
farewell wishes

13.00 postoperative wardround
13.30 chief surgeon travelled by road to katsina
15.00 administrative work
19.00 end of the working day

day 14
sunday 10.07

7.00 preparartions for the day
8.00 wardround
8.30 surgery
16.00 preparations for the 3rd training session in katsina starting with the arrival of the trainees today
18.30 end of working day

kees waaldijk MD PhD
chief consultant surgeon

10th of July 2011

participants

dr charles onyra	pmo	gen hosp	gwarzo
alh yusuf abdullahi dannafada	po nurse	gen hosp	gwarzo
hajiya binta waziri kin	acno	gen hosp	gwarzo
dr aminu a gumel	smo	fmc	b/kudu
hajiya mariya garba Hassan	cno	fmc	b/kudu
dr adamu tella garba	pmo	gen hosp	gezawa
alh nadabi mohammed shitu	cno	gen hosp	gezawa
hajiya dije adamu gaya	cno	gen hosp	gezawa
dr gabari habib dauda	pmo	mmsh	kano

trainers

dr idris suleiman abubakar	consultant obs&gyn	akth	kano
dr amir iman yola	pmo	mmsh	kano

facilitators pre-, intra- and post-operative care

alh abdullahi haruna	cno	babbar ruga hospital
hajiya binta musa	cno	mmsh
hajiya asma'u mado	cno	mmsh
hajiya mairo ahmed	cno	mmsh
hajiya zainab mohammed	cno	mmsh
hajiya usaina suleiman	no	mmsh

chief trainer

dr kees waaldijk	chief consultant surgeon	babbar ruga hospital

obstetric fistula surgery training

third session

Babbar Ruga National Fistula Teaching Hospital
Katsina

training of 4 consultants and 8 nurses

from monday 11.07 thru sunday 24.07.11

logbook

day 0
sunday 10.07

7.00 preparations for the day + catheter treatment for fistula as **immediate management**

7.30 **165** catheter treatment of **necrotic** type **IIAa** fistula of 21-day duration in para VI (2 alive)

166 catheter treatment of 3x1 cm **necrotic** type **IIAb** fistula of 14-day duration in para I (0 alive) with total circumferential trauma and also type **Ia** rectovaginal fistula with total episiotomy L breakdown

8.00 wardround

8.30 surgery

167 state-of-the-art circumferential fixation of bladder into euo with bi lateral pcf refixation as **minimum surgery first stage** in **extensive** type **IIBb** fistula of **39-day duration** in para I (0 alive) with total circumfer ential trauma; if necessary for continent urethra as second stage

168 primary suturing as **last resort final** of **mutilated extensive** 4 cm 0 type **IIBb** fistula in para IV (0 alive) leaking for 30 yr which started post delivery I and operated at least 10x by 7 different surgeons

169 complicated uvvf/tah-cs-vvf repair of **strange multiple mutilated** type **IIAa** fistulas with urge incontinence in para II (0 alive) operated 1x and also type **Ic** stool fistula fixed onto midline sacrum

170 circumferential repair with fixation of pc fascia/bladder peritoneum as **first stage minimum** of **extensive** type **IIBb** fistula in para I (0 alive) not healed by **immediate** catheter treatment 1348 at 15-day duration

16.00 selection of patients for next day

171 catheter treatment of **necrotic** type **IIAa** fistula with **atonic bladder** in 43-yr-old para XI (7 alive) at 17-day duration following sb male by cs

18.00 postoperative wardround

18.30 end of the working day

supposed arrival of participants but none turned up

day 1
monday 11.07

7.00 preparation of facilities

8.00 wardround
so far, only 1 trainee doctors and 3 trainee nurses turned up

8.30 **172 step-by-step** demonstration of circumferential dissection, advance- ment, circumferential **end-to-end** vesicourethrostomy and bilateral pcf refixation as **continent procedure** in large type **IIAb** fistula in para II (0 alive)
173 second stage minimum surgery distal urethra reconstruction after successful **first-stage** circumferential repair of **extensive** type **IIBb** fistu la in para I (0 alive) with extensive total circumferential trauma and ex tensive vulva leasions/labia loss; **nicely** healed after sitzbaths with a detergent and catheter as part of **active immediate management**; and everything done within 4 mth post partum
174 uvvf-repair of type **IIAa** fistula in para II (0 alive) whereby bladder/ urethra closed to cervix; ureters not identified since patient not drinking
175 excision of scar/mutilation tissue + uvvf-repair of total post **IIAb** urine intrinsic_stress incontinence grade III in para I (0 alive) after 2x repair

15.30 postoperative wardround

16.00 selection of patients
one more doctor turned up

17.00 administration

18.00 end of the working day

day 2
tuesday 12.07

7.00 preparations for the day

8.00 wardround

8.30 surgery with step-by-step teaching
176 repositioning/draining of real ureter fistula L into bladder and primary suturing of **mutilated extensive** type **IIBb** fistula with small bladder capacity as **first stage** in para VI (2 alive) operated 1x; **second stage** has to be discussed with patient
177 catheter treatment of long-standing atonic bladder with in para IX (4 alive) after cs of live female; dye test: no leakage and no clear urine in vagina but overflow incontinence
178 transfistula stone removal with avw approximation as **final by all means** for 3rd stone after 3 operations of **second** obstetric type **IIBb** fistula now with **new** fistula in para II (0 alive) and 2 operations of **first** fistula
179 urethra-euo rhaphy + bilateral para-euo fixation of total post **extensive IIBa** fistula after successful urethra/avw reconstruction and sphinc ter ani reconstruction in para I (0 alive)
180 closure of minute impalement type **I** fistula with 2° cervix prolapse in 67-yr-old para XII (8 alive) who fell onto a piece of wood

15.30 selection of patients

16.30 wardround of postoperative patients

17.00 administration

19.00 end of the working day

day 3
wednesday 13.07

7.00 preparations for the day
8.00 wardround
8.30 surgery: with step-by-step teaching
181+182 bilateral ureter catheterization/**complicated** repair of **exten sive** type **IIAb/IIBb** fistula with whole bladder/ureter prolapse and **state-of-the-art** reconstruction of anorectum, sphincter ani and perineal body of type **IIb** sphincter ani rupture in same one session as **clinical lecture** in para V (4 alive)
183 uvvf-repair of small midline type **IIAa** fistula as **early closure** by trainee doctor under personal supervision by chief surgeon in para I (0 alive); leaking for 59 days which would have healed probably by immedi ate catheter treatment
184 step-by-step demonstration of **urethralization** by longitudinal repair rhaphy of 6x2 cm median fascia defect as cause of **genuine** postpartum total **intrinsic-stress incontinence** grade III in para I (alive) with wide pubic arch, cystocele and cervix in anatomic position
185 ureters, 4/5 circumferential vesicourethrostomy + bilateral pcf refixa tion of **extensive** type **IIAb** fistula at 26-day duration in para I (0 alive); avw left open since everything fixed/inflamed
186 circumferential urethrovesicostomy with pcf refixation of type **IIAb** fistula in para VI (3 alive)
187 bilateral pc fascia fixation as **last resort** for total post **IIAb** urine intrinsic_stress incontinence ion para II (0 alive) after **second obstetric** fistula repair
16.00 classroom lectures
a the **complex trauma** of the obstetric fistula in its broadest sense
b pelvis and pelvis floor anatomy
c the obstetric trauma in relation to pelvis floor structures
17.00 wardround of postoperative patients
logbook discussion with tranee doctors about his own procedure
17.30 selection of patients
18.00 administration
19.00 end of the working day

day 4
thursday 14.07

7.00 preparations for the day
8.00 recap of the previous day by
8.30 wardround
9.00 surgery with step-by-step teaching
188 clinical lecture and **state-of-the-art** reconstruction of the internal sphincter (anorectum), external sphincter and perineal body of sphincter ani rupture with 2.5 cm anorectum trauma in para I (0 alive) operated 1x elsewhere
189 clinical lecture about **immediate management by catheter and/ or early closure** with **demonstration** of early uvvf-repair of type **IIAa** fistula at 41 days not healed by catheter treatment at 5-day duration in para X (3 alive); same patient as demonstrated 4 weeks ago about immediate catheterization
190 urethralization and para-euo fascia fixation in **congenital genuine** intrinsic-stress incontinence grade III in 15-yr-old para 0; no stool/flatus incontinence and no s/o spina bifida; **poor-quality** pc fascia tissue and **wide open** urethra-euo

191 uvvf-“repair” of **mutilated “inoperable”** type **IIAb** fistula in para I (0 alive) and type **Ib** stool fistula after at least 5 operations with confusing findings and confusing history; in university hospital colostomy thru cs-scar, then implantation of one ureter into sigmoid with still rectovaginal fistula and then closure of colostomy with still rvf

15.30 classroom lectures

d the complex trauma of sphincter ani rupture as type **IIb** stool fistula and its step-by-step reconstruction

16.00 postoperative wardround
16.30 selection of patients
17.00 administration
18.00 end of the working day

day 5
friday 15.07

7.00 preparations for the day
8.00 wardround
8.30 surgery with step-by-step teaching

192 clinical lecture and uvvf-repair as **early closure** with fascia repair of small type **IIAa** fistula with **b characteristics** within **large obstetric circumferential trauma** in para I (0 alive); leaking 45 days

193 disbliteration of neourethra + uvvf-repair as **last resort** in **second obstetric** type **IIBb** fistula in para II (0 alive) after in total 6 operations

194 uvvf-repair + transverse fascia repair/fixation as **early closure** of type **IIAa** in para VIII (3 alive)

195 circumferential dissection and circumferential repair with fascia refix ation as **early closure** of type **IIAb** fistula in para I (0 alive) at 31 days pp

12.30 break and preparations for the mosque
15.00 lectures postponed since no projector available
15.30 postoperative wardround
16.00 selection of patients
17.00 administration
18.00 end of the working day

day 6
saturday 16.07
katsina

7.00 preparations for the day
8.00 recap of day 4 and 5
8.30 wardround
9.00 surgery with step-by-step teaching

196 excision of all mutilation/scar tissue, euo-rhaphy and bilateral pc fascia fixation in **mutilated** total post **IIAb** intrinsic-stress incontinence grade III after dye test to exclude minute fistula in para I (0 alive) opera ted 3x elsewhere and leaking 5 yr

197 debridement + complicated early closure of **strange** type **IIAa** fistula within circular vagina trauma with 1 cm 0 **necrotic** proximal pvw/ cervix trauma in para I (0 alive) at 42 days

198 uvvf-repair as **early closure** of type **IIAa** fistula with no sign of hea-ling by catheter treatment by trainee doctor under personal supervision of chief surgeon in para VI (2 alive) at 34 days

199 clinical lecture and **step-by-step** demonstration of **urethralization** by longitudinal repair of 8x2.5 cm median pcf defect with **wide open** urethra_euo in postpartum **genuine** intrinsic_stress incontinence grade II in 18-yr-old para III (1 alive)
200 repair of type **I** cs fistula in para II (0 alive) in whom operation had to be ended yesterday since op table broke down, now repaired
201 urethralization by fasciorrhapy, euo-rhaphy and bilateral pcf fixation for **fifth obstetric leakage** in total post **extensive IIBb** intrinsic stress incontinence in PXII (2 alive)
202 cystostomy thru fistula and removal of **impacted** 8x6x5 cm bladder stone in **third obstetric** type **IIAa** fistula in para XI (0 alive)

15.30 classroom lectures
e genuine urine intrinsic-stress incontinence and its (surgical) management with evidence-based results in 910 consecutive patients during the 25-yr period 1984-2009
f prevention of postrepair incontinence in type **IIAa** fistulas with eviden ce-based results in 845 consecutive patients over a 4-yr period 2004-2009

16.30 postoperative wardround
17.15 selection of patients for next day + administration
18.30 end of the working day

day 7
sunday 17.07

7.00 preparations for the day
8.00 recap of day 6
8.30 wardround
9.00 filling out questionnaire for self-evaluation
9.30 surgery with step-by-step teaching
203 supporting urethra by reinforcement of fibrofatty tissue (attached to rotation flap) over it and bilateral para-euo fixation as **last resort 10th operation** for post **extensive IIBb** urine intrinsic_stress incontinence for **3 obstetric fistulas** in para III (0 alive) who was successfully operated for her first fistula on **22.02.1992** after 1x operation elsewhere
204 assessment of **ba hanya** under spinal as **final** procedure following **extensive** obstetric trauma and successful 2x vvf- and 3x rvf-repair in para I (0 alive); not leaking at all but stool/flatus incontinence since ante rior anus pulled inside over 2 cm
205 + 206 dilatation of uv-stricture + bilateral “pcf”/avw fixation of overflow incontinence after multiple repairs for **extensive** type **IIBb** fistula and sphinter ani//dehiscent perineal body repair for flatus incontinence in para I (0 alive) after 8 operations including colostomy elsewhere and closure of colostomy still married/living with the problem for 22 yr
207 complicated repair of probably **second obstetric** type **IIAb** fistula R lungu in para IV (0 alive) operated 12 yr ago for fistula post delivery I
208 repair and bilateral pcf fixation of residual minute lungu fistula with total intrinsic-stress incontinence in para II (0 alive) operated 4x for 3 dif ferent fistulas
209 repair of **new** small type **Ia** rectovaginal fistula following “miscarriage” in para XI (4 alive) following successful vvf/rvf-repair 4 yr ago

15.00 wardround
15.30 selection of patients
16.00 administration
18.30 end of the working day

day 8
monday 18.07

700 preparations for the day
8.00 recap of day 7
8.30 wardround
9.00 surgery with step-by-step teaching

210 transverse fascia repair/bilateral fixation with in the process closure of **extensive 0.3 cm second obstetric** type **IIBb** fistula with 2° cervix prolapse in para IV (1 alive) after successful repair post delivery I

211 complicated repair + fixation + avw correction of residual **scarred minute** type **IIBb** fistula in para VIII (3 alive) after 2 repairs; right from the beginning everything fixed/poor tissue quality

212 + 213 difficult **ps-like** repair of type **Ia** rectovaginal fistula fixed onto i spine R and assessment of **extensive inoperable** type **IIBb** fistula due to **extensive circumferential obstetric trauma** in para I (0 alive) opera ted 1x abdominally (?ureterosigmoidostomy? watery stools per anum)

214 continent urethra/avw reconstruction as **second stage** after nicely healed circumferential bladder fixation as **first stage** of **extensive** type **IIBb** fistula as **second obstetric** fistula in para II (0 alive); what took her 5 yr to wait for the second stage

215 suprapubic cystostomy and stone removal; stone formation due to non-drinking in post IIAb repair stress incontinence

216 urethralization, euo-rhaphy and bilateral fixation for post **IIBb** urine intrinsic-stress incontinence grade III in para II (0 alive) who developed 2 consecutive obstetric fistulas

217 urethralization, euo-rhaphy and bilateral fixation for post **IIAa** post delivery total urine intrinsic-stress incontinence in para IV (0 alive)

16.15 no lectures since operation programme finished late
16.15 postoperative wardround
17.00 selection of patients

218 catheter insertion as **immediate management** of **necrotic** 2 cm 0 type **IIAa** fistula within 4 cm 0 avw trauma in 26-yr-old para I (0 alive) at **6-day duration**

18.30 end of the working day

day 9
tuesday 19.07

7.00 preparations for the day
8.00 recap of day 8
8.30 wardround
9.00 surgery with step-by-step teaching

219 final assessment + bilateral fixation of para**neo**urehra tissue onto para-euo symphysis as **last resort final** for total post **extensive IIBAb** incontinence in para I (0 alive) who had her first repair 30.12.86; both vvf/rvf-repairs **nicely healed** but neourethra not functioning

220 euo-rhaphy, pcf fixation at R and bilateral para-euo fixation as **last resort final** for post **IIAb** total urine incontinence as **10th procedure** in para V (0 alive) who had successful vvf/rvf-repairs for **4 consecutive obstetric fistulas** starting 7.8.87

221 urethra rhaphy, para-euo fixation and repair of dehiscent perineal body as **last resort** for total post **IIBa** urine intrinsic_stress incontinence in para III (2 alive) who had **2 consecutive obstetric** fistulas

222 final assessment of **inoperable IIBb** fistula after 4 repairs in para III (0 alive) since everything fixed
223 bilateral pcf fixation to paraurethra atf for **new obstetric** leakage as total post-delivery post **extensive IIAa** urine intrinsic_stress incontinen ce in para V (0 alive) with extensive obstetric vvf/rvf post delivery I
224 bilateral pcf fixation for total post **extensive IIBa** urine intrinsic_ stress incontinence as **10th operation** and **second obstetric** leakage in para III (0 alive)
225 repair of uvvf, pcf fixation + euo-rhaphy for post yankan gishiri **IIBa** stress incontinence grade II in para 0
226 repair of **second obstetric** type **IIAa** fistula following "miscarriage" 10 yr after successful repair of first obstetric fistula in para II (0 alive)

15.30 classroom lectures
g history/achievement of vvf in Nigeria by dr idris halliru
h fistulas for beginners, characteristics and setting standards

16.30 clinical lecture + practical demonstration of **immediate management** by catheter (and/or early closure) in 3 patients
227 catheter gtreatment for total urine instrinsic-stress incontinence as healing phase of atonic bladder in para VI (4 alive) at 35 days
228 catheter treatment for 4 cm 0 **necrotic** type **IIA** fistula in para XV (5 alive) at 5 days; however, slim prospect of healing

17.00 wardround
17.30 selection of patients
18.15 administration
19.00 end of the working day

day 10
wednesday 20.07

7.00 preparations for the day
8.00 recap of day 9
8.30 wardround
9.00 surgery with step-by-step teaching
229 clinical lecture and demonstration of cervix/pcf fixation as uterus-saving mini-invasive procedure for **massive** total 3° cervix prolapse in 15-yr-old para V (3 alive)
230 complicated **continent** urethra reconstruction of lacerated type **IIBa** fistula following road traffic accident after successful repair of **2 conse cutive obstetric** fistulas in para III (0 alive)
231 assessment of both **inoperable** type **IIAb** fistula and type **Ia** recto vaginal fistula in para I (0 alive) with **extensive obstetric trauma** living with her condition for 28 yr
232 pcf/avw/cervix fixation at L with repair of deficient perineal body for total post **second obstetric IIAb/Ia** urine intrinsic_stress incontinence in para IV (0 alive) with **empty pelvis** due to **extensive** obstetric trauma
233 uvvf-repair of small retracted type **IIAa** as **early closure** at 58 days in para XI (6 alive); **nb** fistula would have healed by immediate catheter

15.30 classroom lectures
i total 3° cervix prolapse, its pathophysiology and its surgical treatment by mini-invasive technique saving the uterus
j classification of vvf according to qualitative and quantitative tissue loss of the continence mechanism with consequences for operation principles and results as to closure and as to continence
k classification pf rvf according to involvement of continence mechanism with consequences for operation principles

16.30 postoperative wardround
17.00 selection of patients
234 catheter treatment continued in 4 cm 0 **necrotic** type **IIAb** fistula at 16 days in para I (0 alive) who delivered sb male by cs; catheter left in since draining very well though prospect of healing slight
17.45 administration
18.30 end of the working day

day 11
thursday 21.07
7.00 preparations for the day
8.00 recap of day 10
8.30 wardround
9.00 surgery with step-by-step teaching
235 clinical lecture and demonstration of cervix (with adherent pcf) fixa tion of 3° total cervix prolapse with decubitus ulcer/without stress inconti nence in para X (2 alive) who developed this condition 30 yr ago post delivery III; mini-invasive technique
236 + 237 excision of all mutilation/scar tissue, repair and pcf fixation in iatrogenic type **IIAa** fistula with reinforcement pf sphincter ani + perineal body repair of type **IIb** fistula in one patient para II (0 alive) with severe surgical mutilation
238 final assessment of **inoperable** post **IIAb** incontinence since every thing fixed in para I (0 alive) leaking for 28 yr
239 paraurethra pcf/avw fixation, urethra rhaphy and para-euo fixation of total post **IIBb** intrinsic_stress incontinence as **last resort** with only 50% success chance in para I (0 alive) after multiple vvf/rvf-repairs due to **extensive obstetric trauma**
15.30 classroom lectures
l pre-, intra- and post-operative care by dr said ahmad with in-depth q&a
17.00 postoperative wardround
no selection of patients since all have been attended to
17.30 administration
18.30 end of the working day

day 12
friday 22.07
7.00 preparations for the day
8.00 recap of day 11
8.30 wardrouind
9.00 surgery with step-by-step teaching
240 additional fixation of cervix at R as **second stage according to master plan** since 2° cervix prolapse at R following successful fixation at L as **first stage** for total cervix prolapse in 16-yr-old para I (alive) as uterus-saving mini-invasive procedure
241 additional fixation of R cervix as **second stage** after successful fixa tion at L as **first stage** of total cervix prolapse in para VI (4 alive) who had 3 live children with total prolapse for 12 yr

nb all the patients in the hospital were attended to and there are no more patients left on the waiting list
11.30 handing out certificates to all participants
votes of thanks from both trainers and trainees
official closure of the training workshop

12.00 postoperative wardround
12.30 end of the working day so that everybody can prepare for the mosque
16.00 travelling of the surgical team by road from babbar ruga to kofan gayan hospital in zaria since they have over 10 patients on the waiting list and we have to continue with our work
18.15 safe arrival of the team in the hotel

saturday 23.07
8.00 preparations for the day
8.30 surgery
242 circumferential dissection, advancement, circumferential end-to-end ve sicourethrostomy + bilateral pcf refixation as **early closure** of large type **IIAb** fistula in para I (0 alive) at 52 days
243 complicated repair of **ragged iatrogenic** longitudinal type **IIAa** fistula in para X (4 alive) who deliverd sb female vaginally and then had lapa rotomy/hysterectomy same day for reasons not given
244 repair of minute < 0.1 (1.5 after dissection) cm type **I** sth-cs-vcvf fistula in para XI (7 alive) who was leaking little with spontaneous miction
245 transverse pc fascia repair/bilateral refixation with in the process closure of small type **IIAa** fistula with **b characteristics** in para VII (2 alive); who cares about obstetric care
15.30 postoperative wardround
16.00 end of the working day

sunday 24.07
8.00 wardround
9.00 surgery
246 uvvf-repair + transverse pcf fixation as **early closure** of type **IIAa** fistula in para I (0 alive) leaking for 60 days
247 catheter treatment of 4 cm 0 **necrotic** type **IIA** in para I (0 alive) lea king 10 days
248 catheter treatment of type **IIAa** fistula in para II (1 alive) leaking for 40 days (still chance of healing) who cannot stand/walk without support
not a single patient left on the waiting list
11.30 postoperative wardround
12.00 traveling of chief surgeon to kano as normal rhythm
14.15 arrival in hotel and end of the working day

kees waaldijk MD PhD
chief consultant surgeon
22th of July 2011

participants

dr bawa dogara bure		atbuth	bauchi
mrs alang b larau			
dr ahmed saheed bolaji		gen hosp	daura
alh aliyu husaini maibara			
hajia aisha namadi			
dr sani dandela		gen hosp	funtua
hajia murja salihu sagir			
hajia anas abdulkadir			
dr hayatu tanimu		gen hosp	kankara
alh bello gambo			
mrs osuagwu eunice chinyere			
hajiya aishatu ahmed	cno	hgsgh	zaria

trainers

dr said ahmad	consultant obs&gyn	vvf center	jahun
dr idris a halliru	moh	katsina	

facilitators pre-, intra- and post-operative care

dr abdulmajid mudasiru	cmd	babbar ruga hospital
alh abdullahi haruna	cno	
alh kabir k lawal	cno	
alh gambo lawal	cno	
hajiya adetutu ajagun	cno	
hajiya amina mamman	cno	

chief trainer

dr kees waaldijk	chief consultant surgeon	babbar ruga hospital

obstetric fistula surgery training

fourth session

Laure Fistula Center
Murtala Muhammad Specialist Hospital
Kano

training of 6 consultants/doctors and 4 nurses

from monday 12.09 thru friday 23.09.11

logbook

day 1
monday 12.09

07.00 preparation of facilities
08.00 introduction of participants and outlining the course
09.00 surgery
249 clinical lecture and catheter treatment of overflow/intrinsic/stress incontinence grade III in para III (all alive) leaking for 12 days
250 catheter treatment of total overflow/intrinsic/stress incontinence grade III in para I (0 alive) leaking for 15 days
251 catheter treatment for total intrinsic/stress incontinence grade III in para I (0 alive) leaking for 8 days
follow-up consultation in 9 patients
10.00 introduction of participants, explaining the training to all participants, explaining the logistics/financial implications by representative of FMOH
10.30 surgery with step-by-step teaching
252 urethralization + bladder closure for post **IIAa** intrinsic/stress incontinence grade III in para I (0 alive): fistula had healed by immediate catheter treatment for 4 wk
253 urethralization for genuine postpartum intrinsic/stress incontinence grade II-III in para V (3 alive) not responding to bladder drill
254 uvvf-repair + transverse fascia repair as **early closure** for medium-size type **IIAa** fistula in para V (3 alive) leaking 42 days
255 uvvf-repair + transverse fascia repair as **early closure** for small type **IIAa** fistula in para XIV (9 alive) leaking 30 days
14.00 selection of patients for the training workshop
15.00 wardround of postoperative patients
15.30 end of the working day
17-18.00 administration and documentation

day 2
tuesday 13.09

07.00 preparations for the day
08.00 wardround

08.30 surgery with step-by-step teaching
256 + 257 clinical lecture and 4/5 circumferential repair with bilateral fas cia refixation of large type **IIBb** fistula and double layer repair of mutila ted type **IIa** rvf in para I (0 alive); unsuccessful rvf-repair 1x
258 highly **complicated** repair of residual small type **IIAa** fistula at L in para IX (5 alive); median fistula healed by catheter, still pcf defect
259
260 repair of multiple 3 minute lungu-lungu type **IIAb** fistulas in para II (0 alive) leaking for 25 yr and operated once elsewhere
261 transverse repair of medium-size type **IIAb** fistula in para XII (5 alive) leaking for 12 yr
262 transverse repair of small type **IIAa** fistula in para I (0 alive)
14.00 selection of patients and preparing for pessary insertion in incurable long-standing postrepair intrinsic incontinence
15.30 wardround of postoperative patients
16.15 end of the working day

day 3
wednesday 14.09
07.00 preparations for the day
08.00 a start was made with **urethra pessary** insertion for **incurable** long-standing postrepair total urine intrinsic incontinence
08.30 wardround
09.00 surgery: with step-by-step teaching
263 clinical lecture and demonstration of bilateral pc<fascia fixation onto paraurethra_euo atf in long-standing total post **IIAb** urine intrinsic stress incontinence grade III in para V (1 alive) leaking urine for 17 yr
264 catheterization L ureter and **complicated** urethra/avw reconstruc tion of **mutilated** type **IIBb** fistula in para III (1 alive) leaking urine for 15 yr, still living with husband and operated 3x elsewhere; water-ticht closu re could not be achieved due to severe fibrosis
265 urethra/avw reconstruction in mutilated type **IIBa** fistula following yankan gishiri by doctor bco ba hanya and then operated 4x
266 transverse repair of small type **IIAa** fistula in para IV (1 alive) with moderate vagina stenosis; operated 1x
267 bilateral pc fascia fixation onto paraurethra_euo arcuis tendineus fasciae for total post **IIAb** postdelivery urine intrinsic-stress incontinence grade III in para II (0 alive)
268 transverse **early** closure of type **IIAa** fistula in para IX (5 alive) leak ing 71 days
15.00 selection of patients
16.00 wardround of postoperative patients
16.30 end of the working day

day 4
thursday 15.09
07.00 preparations for the day
08.00 wardround
08.30 surgery with st ep-by-step teaching
269 catheter treatment of small type **I** fistula and total intrinsic inconti nence grade III due to totally **inflamed** anterior vagina wall with traumati zed euo in para I (0 alive) leaking for 25 days
+ clinical lecture about immediate management by catheter

270 state-of-the-art urethralization by longitudinal repair of median 5x2 cm pc fascia defect for postpartum genuine intrinsic_stress incontinence grade III in para I (0 alive) not responding to bladder drill; with that speci fic distal urethra_euo trauma
+ clinical lecture about (genuine) intrinsic_stress incontinence
271 transverse repair + pcf refixation of **mutilated** severely scarred type **IIAb** fistula with total circumferential trauma in para I (0 alive) operated 1x
272 complicated repair of **extensive** type **IIAb** fistula in para V (0 alive) who had been operated successfully for two previous obstetric fistulas
273 transverse repair of type **IIAa** fistula in para I (0 alive who had been operated 1x elsewhere
274 repair of type **IIAa** fistula as **early** closure in para I (0 alive) leaking 44 days
275 bilateral ureter catheterization + transverse repair of large type **IIAa** fistula as **early closure** in para I (0 alive) leaking 37 days

15.30 postoperative wardround
16.00 end of the working day

day 5
friday 16.09

07.00 preparations for the day
08.00 wardround
08.30 surgery with step-by-step teaching
276 transverse repair of **mutilated** lungu-lungu type **IIAa** tah-cs fistulas at fixed vault in para II (0 alive) leaking 11 yr and operated 4x elsewhere
277 highly **complicated** repair of intracervical type **I** cs-fistula with fixed cervix as **early closure** in para III (1 alive) leaking 38 days
11.00 postoperative wardround
11.30 chief surgeon travelled to zaria since kano state on strike and no opera tions on saturday and sunday
14.00 arrival in hotel; end of working day

day 6
saturday 17.09

zaria
08.00 selection of patients + preparations for the day
08.30 surgery
278 catheter treatment for overflow incontinence due to atonic bladder in para I (alive) leaking urine for 3 days
279 transverse closure of type **I** sth-cs vesicocervicouterovaginal fistula in para X (8 alive) with total anterior uterus wall loss so that posterior uterus becomes posterior bladder
280 excision of mutilation-scar tissue + urethralization + euo-rhaphy for total post IIBa repair total intrinsic_stress incontinence grade III in para VII (2 alive)
281 lungu repair for total post **IIAb** intrinsic-stress incontinence grade III with atonic bladder component in para I (0 alive)
282 step-by-step anorectum closure + sphincter ani reconstruction + perineal body repair for sphincter ani rupture in para X (9 alive)
+ clinical lecture about sphincter ani rupture, mechanism of action

283 step-by-step anorectum closure + sphincter ani/perineal body reconstruction as **early repair** in para I (alive) operated 1x with stool_fla tus incontinence for 12 days

15.00 wardround
15.30 travel by car to katsina
18.30 arrival in hospital
selection of partients for next day + administration
19.00 end of working day

kano no operations since all the staff of kano state is due for personal screen ing of their employment particulars

day 7
sunday 18.09
katsina
07.00 preparations for the day only to find out strike
08.00 administration + documentation
13.30 traveling of chief surgeon by road to kano
17.00 arrival in hotel end of “working” day

kano no operations since clinic day
12.00 wardround

day 8
monday 19.09
0700 preparations for the day
0800 wardround
08.30 surgery with step-by-step teaching
284 + 285 transverse closure and pc fascia fixation of type **IIAa** fistula within larger avw_cervix defect and **ps-like** pvw/cervix adapatation of type **Ia** stool fistula in para VIII (5 alive) operated 1x; poor-quality tissue and everything fixed
286 clinical lecture and step-by-step demonstration of circumferential end-to-end vesicourethrostomy in large type **IIAb/Bb** fistula in para X (0 alive) who got her fistula at delivery I leaking for 30 yr and never been operated; healing 90% and continence 85%
+ clinical lecture about circumferential fistulas and their repair
288 uvvf-repair of type **IIAb** fistula as **early closure** in para VIII (3 alive) leaking 36 days **134 step-by-step** teaching of 4/5 circumferential vesicourethrostomy with transverse fascia repair/bilateral refixation onto paraurethra_euo atf of type **IIAb** fistula in para I (0 alive) not healed by catheter treatment
288 transverse **early** repair of type **IIAb** fistula with pc fascia repair in para 8 (3 alive) leaking 36 days
289 assessment of ureter fistula L following cs in para X (8 alive); since ureter cannot be catheterized patient referred to our urologist in zaria for abdominal implantation
290 assessment of **inoperable** type **IIAb** fistula in paraI (0 alive) with operable type **Ib** rvf; operation postponed since heavy stool contamina tion
291 bladder drill for total utine intrinsic_stress incontinence as physiolo gic healing stage of postpartum atonic bladder in paraII (all alive) leaking urine for 38 days
+ clinical lecture about postpartum atonic bladder and its treatment
14.30 selection of patients

15.00 postoperative wardround
15.30 end of the working day

day 9
tuesday 20.09
07.00 preparations for the day
08.00 wardround
08.30 surgery with step-by-step teaching
292 urethralization by longitudinal repair of median fascia defect of total post **IIBb** 5x delivery intrinsic incontinence in para VI (3 alive) leaking for 20 yr; **nb** after repair 2x delivery in hospital (sb infants) and 3x delivery at home (live infants); pat living with husband and keeps very good personal hygiene
293 under tension ps-like uvvf-"repair" of **mutilated** type **IIAb** fistula in para III (0 alive)
294 transverse repair with bilateral fascia fixation of minute residual type **IIAb/Bb** fistula in para II (0 alive) operated 1x
295 transverse repair of type **IIAa** fistula in para II (1 alive) operated 1x
296 transverse repair of type **I** tah-cs fistula as **early closure** in para III (2 alive) leaking 52 days
14.30 selection of patients
15.00 wardround
15.30 end of the working day

day 10
wednesday 21.09
07.00 preparations for the day
08.00 wardround
08.30 surgery with step-by-step teaching
one of the operation lights (already not optimal) broke down so we could only operate on one table
297 wide opening of closed distal rectum loop in type **Ic** rvf with end-standing opening of proximal loop into vagina in parav VII (4 alive) operated 8x for vvf/rvf; vvf healed with slight incontinence which does not bother patient
298 bilateral pc fascia fixation obnto paraurethra-euo atf for post **IIAb** total intrinsic_stress incontinence grade III in para X (7 alive)
14.00 selection of patients
no lectures since participants left us to collect their salary for june
14.45 postoperative wardround
15.15 end of the working day

day 11
thursday 22.09
7.00 preparations for the day
8.00 wardround
8.30 surgery with step-by-step teaching
299 bilateral pc fascia fixation onto paraurethra_euo atf for post **IIAb** total intrinsic_stress incontinence in para I (0 alive)
300 assessment of **"inoperable" extensive** type **IIBb** fistula in para I (0 alive); extensive obstetric trauma whereby all tissues fixed
301 assessment of **inoperable** type **IIBb** fistula in para I (0 alive) with severe vagina stenosis/shortening by **stone-hard fibrosis/scarring**
15.00 postoperative wardround
15.30 end of the working day

day 12
friday 23.09

07.00	preparations for the day
08.00	wardrouind
08.30	surgery with step-by-step teaching **302** bilateral pc fascia fixation as **last resort final** for post **IIAb** total intrinsic_stress incontinence III in para VII (0 alive) as **third obstetric leakage** viz post delivery II, III and VII and operated 5x **303** bilateral pc fascia fixation for post **IIAb** total intrinsic_stress inconti nence grade III in para I (0 alive) operated 2x
11.00	evaluation of the training programme by trainees and trainers small closing ceremony handing out of the certificates by dr momah, director department of family health, federal ministry of health, abuja farewell wishes
11.45	postoperative wardround
12.00	end of the working day so that everybody can prepare for the mosque

sincerely yours,

kees waaldijk MD PhD 25th of september 2011
chief consultant surgeon

participants

dr isyaku dauda	pmo	akth	kano
dr halima bello	senior registrar	guje hosp	abuja
dr duum n kwachukwu	consultant	fmc	bida
dr hadiza a usman	consultant	umth	maiduguri
dr ayodeji olorunsogo	registrar	fmc	gome
dr safiya faruk usman	registrar	akth	kano
mrs edewede glory	sno	fmc	gombe
hajiya mariya mala yusuf	cno	umth	maiduguri
hajiya aish shehu adamu	cno	mmsh	kano
mrs ikupolati naomi f	cno	fmc	bida
dr gabari habib dauda	pmo	mmsh	kano

trainers

dr idris suleiman abubakar	consultant obs&gyn	akth	kano
dr amir iman yola	pmo	mmsh	kano

facilitators pre-, intra- and post-operative care

alh abdullahi haruna	cno	babbar ruga hospital
hajiya binta musa	cno	mmsh
hajiya asma'u mado	cno	mmsh
hajiya mairo ahmed	cno	mmsh
hajiya zainab mohammed	cno	mmsh
hajiya usaina suleiman	no	mmsh

chief trainer

dr kees waaldijk	chief consultant surgeon	babbar ruga hospital

obstetric fistula surgery training

Babbar Ruga National Fistula Teaching Hospital
Katsina

fifth and last session

training of 4 consultants/doctors and 6 nurses

from monday 17.10 thru friday 28.10

logbook

day 0
sunday 16.10
07.00 to 18.00 6 operations + preparation of facilities

day 1
monday 17.10

07.00	preparation of hospital
08.00	arrival of first tranees
10.00	small welcome “ceremony” with introduction of participants, outlining of training objectives and tour of the center
12.00	surgery with step-by-step teaching **304 + 305** bilateral ureter catheterization with transverse repair of type **IIAa** fistula and **state-of-the-art** anorectum closure, sphincter ani recon struction and perineal body repair of type **IIb** fistula in para IV (1 alive) **+** clinical lecture about principles of obstetric fistula repair **+** clinical lecture about stool continence mechanism and mechanism of action and reconstructive principles of sphincter ani rupture repair **306** suturing bladder onto symphysis over lungu-lungu type **IIAb** fistulas in para I (0 alive) leaking 5 yr and operated 1x **307** closure + bilateral pc fascia refixation of minute residual type fistula as good result of primary suturing of mutilated **IIAb** fistula in para I (0 alive) operated 3x **308** transverse closure of minute type **I** cs-fistula in para I (0 alive) leak ing 1 yr **309** transverse closure of type **I** fistula against R anterior cervix in para VII (6 alive)
17.00	postoperative wardround
17.30	selection of patients for the training workshop + documentation
18.30	end of working day

day 2
tuesday 18.10

07.00	preparation of the hospital
08.00	handing out cd with books, global competency-based training manual and questionnaire for self-evaluation to all participants

08.30 wardround
09.00 surgery with step-by-step teaching
310 transverse pc fascia repair/bilateral refixation with transverse closure of small lungu type **IIAb** fistula in para I (0 alive) leaking 2 yr and operated 1x
+ clinical lecture about + demonstration of urine continence mechanism and importance of pubocervical fascia + pelvis floor anatomy
311 urethralization by longitudinal fascia repair/bilateral fixation for total post **IIAb** delivery urine intrinsic_stress incontinence grade III in para VII (5 alive)
312 catheterization of L ureter + **early** 4/5 circumferential closure + bila teral pcf refixation of type **IIBb** fistula as **3rd obstetric fistula** in para VII (2 alive) leaking 74 days
313 catheterization R ureter + **early** transverse repair of type **IIAa** fistula with bladder base prolapse in para I (0 alive) leaking 68 days
314 early closure of small type **I** cs-fistula in para **I** (0 alive) leaking for 75 days
315 early closure of small type **IIAa** fistula slightly at R in para II (1 alive) leaking 46 days
316 early closure type **I** cs-fistula in para X (7 alive)
317 complicated longitudinal closure of intracervical type **I cs** fistula in para X (4 alive)
17.30 wardround of postoperative patients
18.00 selection of patients, administration and documentation
19.00 end of the working day

day 3
wednesday 19.10
07.00 preparations for the day
08.00 recap of the previous day
08.30 wardround
09.00 surgery: with step-by-step teaching
318 + 319 circumferential repair with longitudinal fascia repair of type **IIBb** fistula and anorectum/sphincter ani/perineal body reconstruction of type **IIb** fistula in para I (0 alive) with severe iatrogenic trauma by 2 ope rations elsewhere
320 complicated 4/5 circumferential repair with bilateral pcf refixation of type **IIAb** fistula fixed to cephalad symphysis in para VI (2 alive)
321 bilateral fixation of pcf onto paraurethra_euo atf for post **IIBa** total incontinence grade III in para 0; yankan gishiri for ba hanya
322 catheter treatment for postpartum total urine intrinsic incontinence grade III in pare I (0 alive) leaking 18 days
323 catheter treatment for long-standing postpartum atonic bladder in para I (alive) to be followed by bladder drill and then re-evaluation
324 repair of type **I** cs fistula as **second stage** after successful closure of type **IIAa** fistula as **first stage** in para VIII (4 alive)
325 early circumferential repair + pcf fixation of type **IIAb** fistula in para I (0 alive) leaking 67 days
326 repair of residual type **I** tah-cs fistula in para II (all alive) with cervix remnants fixed midline
15.00 two classroom lecture
a sphincter ani rupture; a complex trauma
b fistulas for beginners

16.00 postoperative wardround
16.30 selection of patients, administration and doumentation
19.00 end of the day

day 4
thursday 20.10
07.00 preparations for the day
08.00 recap of the previous day
08.30 wardround
09.00 surgery with step-by-step teaching
327 + 328 state-of-the-art urethralization by longitudinal fascia repair + transverse fixation for total **genuine (IIAb)** intrinsic_stress incontinence and transverse closure of type **Ia** stool fistula in para I (0 alive)
+ clinical lecture about mechanism of incontinence and importance of pubocervical fascia in stabilizing/securing urethra_euo in its anatomic position
329 step-by-step demonstration of excision of scar tissue and para urethra_euo fixation of fascia for post **IIBa** total intrinsic incontinence in para III (all alive); yankan gishiri for 3° cervix prolapse
330 transverse fascia repair/bilateral refixation + uvvf-repair of **second obstetric** type **IIAb** fistula in para VII (1 alive) who had successful cir cumferential repair post delivery I fifteen years ago
331 bilateral ureter catheterization + circumferential repair **first stage** for **"inoperable"** type **IIBb** fistula in para VIII (3 alive) with poor tissue quality and everything fixed due to continuous stool contamination from end-standing sigmoidostomy into vagina of type **Ic** stool fistula
332 catheter treatment for long-standing atonic bladder following cs in para I (0 alive)
333 bilateral ureter catheterization and transverse repair of type **IIAa** fistula as **early closure** in para I (0 alive) leaking 70 days
334 urethralization by longitudinal fascia repair/transverse fixation for post **IIAb** total instrinsic_stress incontinence grade III in para XI (6 alive)
335 longitudinal repair of large type **IIAa** fistula in para VI (1 alive)
no lectures since surgery ended 17.15 hr
17.30 postoperative wardround
18.00 selection of patients, administration and documentation
19.00 end of the day

day 5
friday 21.10
07.00 preparations for the day
08.00 recap of previous day
08.30 wardround
09.00 surgery with step-by-step teaching
336 transverse fascia repair with transverse closure of midline 1.5 cm 0 type **IIAa** fistula with normalization of euo by doctor trainee under direct supervision by chief consultant in para I (0 alive)
337 transverse repair of intracervical type **I** fistula in para III (2 alive); delivery II by cs, now obstetric trauma superimposed upon cs trauma
338 transverse bladder onto posterior cervix remnants closure of type **I** sth-cs fistula in para XII (6 alive)
339 transverse closure + bilateral pcf fixation for minute **second obste tric** lungu type **IIAb** fistula in para III (0 alive); excision of scar tissue ++

13.00 break
16.30 two classroom lectures
c the complex trauma of the obstetric fistula
d pelvis anatomy + pelvis floor anatomy: arcus tendineus fasciae, pubo cervical fascia, levator ani muscle etc etc
17.45 postoperative wardround
18.00 selection of patients, administration and documentation
19.00 end of the day

day 6
saturday 22.10
07.00 selection of patients + preparations for the day
08.00 recap of previous day
two classroom lectures
e genuine intrinsic-stress incontinence and its conservative/surgical ma nagement
f the obstetric trauma in relation to pelvis inlet and structures
08.30 wardround
09.00 surgery with step-by-step teaching
340 state-of-the-art lecture and **step-by-step** demonstration by chief surgeon of circumferential fistula type **IIAb** in para XII (10 alive) with **total circumferential trauma** + 2° cervix prolapse
341 reconstructive surgery of obstetric trauma in severely mutilated type **IIAb** fistula in para III (0 alive) operated 2x and planned for urinary diversion
342 transverse fascia repair + fistula closure of **third obstetric** type **IIAa** fistula within large 5x1 cm transverse pcf defect in para IX (6 alive); previous two fistulas healed by immediate catheter insertion
343 repositioning of euo into anatomic position for post **mutilated** type **IIBa** total intrinsic_stress incontinence in para X (7 alive) operated 3x; the problem mutilation + pull by fixed cervix; as **last resort**
344 complicated repair of minute type **I** fistula fixed to i spine R in para IX (5 alive) following colpocleisis elsewhere
345 assessment of ureter fistula type **III** after cs in para II (0 alive) after successful cs-vcvf-repair
346 ureter catheterization R + transverse repair of large type **I** cs-fistula in para III (2 alive)
16.30 wardround
17.00 selection of partients, administration and documentation
19.00 closure of the day

day 7
sunday 23.10
07.00 preparations for the day
08.00 wardround; trainees preferred to have a rest day
09.00 surgery
347 ureter catheterization L and **real reconstructive surgery** of **2nd obstetric** type **IIAb** fistula in para VIII (1 alive) who delivered 6x after successful fistula repair post delivery II
348 step-by-step identifying and then **systematic reconstruction** of the defects in **genuine intrinsic incontinence** in para X (4 alive)
349 assessment of total post **IIAa** intrinsic incontinence and type **Ic** rvf in para II (0 alive); operation postponed bco heavy stool contamination, no electricity + Sunday
350 assessment of ureter fistula L after sth-cs in para XIII (8 alive) with total intrinsic incontinence; successful type **IIAa** repair 4 mth ago

351 instruction of patient + mother about repeat self-dilatation by torch light covered by condom bco congenital vagina malformation; wanzami yankan gishiri (scarification) without resulting in leaking urine

16.30 wardround

17.00 selection of patients, administration and documentation

18.00 closure of the day

day 8

monday 24.10

07.00 preparations for the day

08.00 recap of saturday

08.15 classroom lectiures

e conservative and surgical treatment of postpartum intrinsic stress incontinence grade III

09.00 wardround

09.30 surgery with step-by-step surgery

352 + 353 reconstructive fascia repair with transverse closure of minute type **IIAa** fistula with total intrinsic incontinence and anorectum repair + sphincter ani reconstruction + perineal body repair of type **IIb** stool fistu la in para III (1 alive) operated 1x for sphincter ani rupture

354 state-of-the-art urethralization as reconstruction by longitudinal fascia repair/refixation for total post **IIBb** intrinsic_stress incontinence grade III in para I (0 alive); both rvf/vvf healed

355 ”repair” of residual **severely scarred** small fistula with objective in trinsic_stress incontinence in para XIV (6 alive)

356 complicated transverse repair of residual small fistula in para IX (0 alive) with postpoliomyelitis syndrome R operated 2x

357 urethra reconstruction for total post **IIAb** intrinsic_stress incontinen ce grade III whereby euo posteriorly drawn inside in para VI (1 alive)

14.00 chief consultant travelled to kano for some other business and for the training of senior registrars from aminu kano teaching hospital

17.00 postoperative wardround

17.30 selection of patients

18.30 end of the day

day 9

tuesday 25.10

07.00 preparations for the day

08.00 recap of previous day

08.30 wardround

09.00 surgery with step-by-step teaching

358 paraurethra_euo fascia fixation for post **IIBb** delivery total intrinsic_ stress incontinence III in para II (0 alive) as **second obstetric leakage** after successful vvf/rvf-repair post delivery I

359 repair of intracervical type **I** cs-fistula in para X (2 a.live) with cervix fixed/retracted

360 assessment of ureter fistula by dye test in para VIII (7 alive); since ureter could not be catheterized referred to urologist for abdominal reimplantation

In kano by chief consultant teaching senior registrars in obs&gyn

361 clinical lecture + transverse fascia repair/fixation with transverse closure of type **IIAa** fistula within large transverse pcf defect in para I (0 alive)

362 step-by-step bilateral ureter catheterization + transverse closure of 2.5 cm 0 type **I/IIAa** cs-fistula with large transverse pcf defect at 3 cm from euo in para VIII (4 alive)
363 repair of **mutilated** type **IIAa** fistula in PII (0 alive) with cervix fixed/ retracted; operated 2x

13.30 chief consultant travelled back to katsina to continue the training
16.00 classroom lectures by dr halliru idris
f pre-,intra- and postoperative care
g vvf in nigeria
17.00 wardround
17.30 selection of patients
18.30 end of working day

day 10
wednesday 26.10

07.00 preparations for the day
08.00 recap of previous day
08.15 classroom lectures
h classicication of vvf as based on qualitative and qualtitative tissue loss of continence mechanism with consequences for operation technique and prognosis as to healing and as to continence
i classification of rvf as based and involvement of continence mecha nism with consequences fpr operation technique
09.00 wardround
09.30 surgery with step-by-step teaching
364 gradual dilatation of pin-hole non-scarred euo stenosis with dysuria + overflow incontinence **as early management** in para I (alive) leaking 55 days; further catheter treatment as for atonic bladder
365 state-of-the-art longitudinal fascia repair for extensive postpartum cystocele in para X (6 alive); patient delivered 6x vaginally after cervix fixation for 3° cervix prolapse 19.10.03; cervix still more or less in anatomic position which is evidence-based proof that our technique for 3° cervix prolapse is functioning
366 transverse fascia repair/refixation with fistula closure for type **IIAb** fistula in para I (0 alive) with cervix fixed onto i spine R
367 transverse repair of small type **IIAa** fistula in para VI (0 alive) as **second obstetric fistula**; why did it not heal at first attempt?
368 vaginal cystostomy, stone removal and **ps-like** avw closure for stone-induced urge incontinence in para X (4 alive) who had successful vvf-repair in babbar ruga 27 years ago post delivery I
369 ps-like closure of **"inoperable"** type **IIAb** fistula after bladder stone removal in para I (0 alive); after successful closure by multiple repairs she developed bladder stone which perforated into vagina
17.00 postoperative wardround
17.30 selection of patients, administration and documentation
18.30 end of the day

day 11
thursday 27.10

07.00 preparations for the day
08.00 recap of previous day
08.30 classroom lectures by dr kabiru abubakar
j spinal anesthesia
09.00 wardround

09.30 surgery with step-by-step teaching
370 + 371 ps-like repair of **"inoperable"** type **IIAb** fistula with **state-of-the-art** anorectum + sphincter ani + perineal body reconstruction in para I (0 alive) who had postpartum **fournier gangrene** of L vulva resulting in posterior labia loss L
372 clinical lecture + **repeat step-by-step demonstration** of internal sphincter + external sphincter + perineal body reconstructive surgery in para II (all alive) operated 4x
373 stone removal by vaginal cystostomy thru fistula and then repair with bilateral fascia fixation for **second obstetric** type **IIBb** fistula with 2 bladder stones in para V (0 alive) who had successful repair in babbar ruga 15 years ago post delivery
374 transverse repair of small type **IIAa** fistula as **early closure** in para III (2 alive) leaking 63 days
375 circumferential repair by end-to-end vesicourethrostomy with bilate ral fascia refixation for type **IIAb** fistula in para I (0 alive) after catheter treatment failed
376 urethra reconstruction for total post **IIAb** intrinsic_stress incontinen ce whereby euo posteriorly drawn inside in para I (0 alive)
16.30 postoperative wardround
17.00 selection of patients, administration and documentation
19.00 end of the day

day 12
friday 28.10
07.00 preparations for the day
08.00 recap of previous day
08.15 classroom lectures
k immediate management and mass campaign by catheter
l prevention of post IIAa repair incontinence
m extensive obstetric trauma
09.00 wardrouind
09.30 surgery with step-by-step teaching
377 + 378 clininical lecture + step-by-step state-of-the-art circumfe rential repair by end-to-end vesicourethrostomy with bilateral fascia refix ation and then **clinical lecture + step-by-step state-of-the-art** anorec tum + sphincter ani + perineal body reconstruction in para III (0 alive) as **early closure** at 43 days; immediate perineum suturing pp
379 transverse repair with bilateral fascia refixation of type **IIAb** fistula in para I (alive)
13.00 break
16.00 closing ceremony of the whole training programme as organized by fmoh with the attendance of the senior special advisor to the president on mdg with the first lady of katsina state as guest of honour; also present the wife of the deputy governor of katsina state, the commissioner for health, the permanent secretary of health and the permanent secretary of mdg katsina; and the national vvf-coordinator with the desk officer on vvf from fmoh
18.30 tour of the center with commissioning of the new wards, ambulances, generators etc as built/donated by mdg katsina
19.00 end of the day

day 13
saturday 29.10

07.00 preparations for the day

08.00 training continued since we have 3 trainees from ilorin, kwara state, where a new center will be established and 1 international trainee from germany; as well to operate the patients not yet attended to

08.30 wardround

09.00 surgery with step-by-step teaching

380 clinical lecture and **state-of the-art** longitudinal reconstruction of pc fascia in large cystocele in para VII (5 alive); all due to **obstetric trauma**

381 longitudinal **ps-like** avw closure of **"inoperable" ragged** type **IIAa tah-cs** fistula in para XI (8 alive); both ureters identified but cannot be catheterized

382 on special request from patient fixation of 3° cervix prolapse after 8 operations in para I (0 alive) after sth-cs; the stress incontinence does not bother her since she is still living with husband on same compound

383 transverse fibrotic fascia repair + **highly complicated** closure of **mutilated third obstetric** type **IIAa** fistula in para XI (0 alive) after removal of impacted 8x6x5 bladder stone as **first stage**

16.00 postoperative wardround

16.30 selection of patients, administration and documentation

19.00 end of working day

day 14
sunday 30.10

08.30 wardround

09.00 surgery

384 repair of residual fistula with total post **IIBb** intrinsic_stress inconti nence as **last resort** for **second/third obstetric leaking** in para III (0 alive) following multiple repars

11.00 chief surgeon + team travelled 450 km to sokoto for another workshop

17.15 arrival at hotel and end of working day

sincerely yours,

kees waaldijk MD PhD 7th of november 2011
chief consultant surgeon trainer

participants

dr abubakar habibu	pmo	fmc	nguru
alh hassan z tagali	cno	fmc	nguru
mrs yemisi e ojo	cno	fmc	nguru
dr zubairu saad	pmo	fmc	b/kebbi
dr owodunni a adebola	consultant	fmc	gusau
dr okusanya babasola	consultant	fmc	katsina
mrs ewana o sarkin noma	cno	gen hosp	keffi
hajiya saadiya muhammad	cno	fmc	katsina
alh balarabe ayuba samaila	cno	fmc	gusau
hajiya muslimat tayin Ibrahim	cno	fmc	b/kebbi

trainers

dr kabiru abubakar	consultant	kano
dr idris a halliru	moh	katsina

facilitators pre-, intra- and post-operative care

dr abdulmajid mudasiru	cmd	babbar ruga hospital
alh abdullahi haruna	cno	babbar ruga hospital
alh kabir k lawal	cno	babbar ruga hospital
alh gambo lawal	cno	babbar ruga hospital
hajiya adetutu ajagun	cno	babbar ruga hospital
hajiya amina mamman	cno	babbar ruga hospital

chief trainer

dr kees waaldijk MD PhD	chief consultant surgeon	babbar ruga hospital

obstetric fistula surgery training

prepared and adapted for
training manual meeting 10th thru 12th august 2011
dar es salaam
tanzania

guidelines

kees waaldijk, MD PhD

chief consultant fistula surgeon

obstetric fistula surgery training

based on evidence

as practiced in

the national vvf project nigeria

35,000 vvf_rvf-repairs and related operations

establishment of 13 vvf-repair centers

execution of 41 workshops

training materials

training of

362 general doctors and consultants

345 pre-, peri- and postoperative and anesthesia nurses

71 other persons

kees waaldijk, MD PhD

1st edition: november 2003

2nd edition: april 2005 prepared for unfpa meeting in niamey

3rd edition august 2011

table of contents

the obstetric fistula as a major public health problem

the need for training

The obstetric fistula is a major health problem on the rise for which a definite solution still has to be found; some 1,500,000 patients are desperately waiting for operation.
Prevention is a utopia for at least another century since a network of 150,000 functioning obstetric units are needed evenly distributed over the inhabited parts of Africa where day and night an emergency caesarean section can be performed upon arrival of the patient, with an even more concentrated network to detect the first sign of obstructed labor; that is the lesson learned from history in the industrialized world; what about delay in diagnosis of obstructed labor, in decision taking and in transport?
Prevention of the woman from becoming an outcast is very well feasible, even under primitive conditions, by the immediate management by catheter and/or early closure.
Once the fistula patient has become an outcast, rehabilitation is only by successful closure of the fistula which means secondary/tertiary health care.

The best we can aim for at the moment is to spread the expertise how to manage the obstetric fistula confidently within the scarce resources of developing Africa; and once available to keep this expertise where it is needed for as long as needed.
For sustainability reasons, the management of the obstetric fistula has to be simple, safe, effective, feasible, affordable and payable.
However, there are only 2 training centers in the world where systematically doctors, nurses and other health personnel are trained in the management of the obstetric fistula.

Since manpower, expertise, facilities, equipment, training materials and finances are scarce, it will take some time before an impact can be expected.

Some ideas on how to proceed are presented in separate chapters:

obstetric fistula training and trainees

training curriculum

training module

obstetric fistula training center

obstetric fistula repair centers

obstetric fistula rehabilitation

nation-wide obstetric fistula service

obstetric fistula tourism

training of industrialized world

training of non-doctors

Besides this the obstetric fistula has to be integrated within the government health system as a major public health problem with a national program; also (inter)national donor agencies have to be involved

obstetric fistula training and trainees

introduction

In order to cope with the increasing number of obstetric fistula patients in the developing world it is important to train sufficient doctors, nurses and other personnel.
The doctor trainees need at least 10 repairs under strict supervision, from placing the patient on the operating table until the very end of the operation.
Future trainers need personal exposure to the complicated and difficult fistulas in order to train other doctors in the noble art of fistula surgery. They have to become completely familiar with all kinds of fistulas and all kinds of operations.
For nurses and other health personnel it is sufficient to have an intensive exposure to the obstetric fistula combined with practical and theoretical lessons.

different training courses

a. training course for doctors without experience in fistula surgery
b. training course for consultants without experience in fistula surgery
c. follow-up advanced training courses in obstetric fistula surgery
d. training course for future doctor trainers with sufficient experience
e. training course for operation theater nurses
f. training course for pre- and postoperative nurses
g. training course for anesthesia nurses
h. training course for future nurse trainers with sufficient experience
i. refresher courses for nurses
j. training course for supporting staff and other (health) personnel
k. training course for doctors and staff from the industrialized world

requirements of doctors

A trainee must have a surgical experience of at least 3 years in order to learn the basics of obstetric fistula surgery. (S)he does not need to be a consultant but (s)he must be interested in the work and not in the money of the training course.

requirements of future trainers

To become a future trainer, in principle the trainee should be a consultant and have already a personal experience of at least 400-500 repairs and he must be prepared to become a full-time fistula surgeon.

requirements of nurses/midwives or anybody else

A trainee must be working with obstetric fistula patients and be willing to continue to do this. So any trainee should be screened well by his (her) employer and by the sponsoring agency.

duration of training

For doctors without or with low experience in fistula surgery a period of 1.5-2 months will be sufficient if there are enough patients for them to operate upon; after 50-100 personal repairs, they can be trained again for 1 month.
For nurses and other (health) personnel a period of 1 month will be sufficient if there enough patients available.
For future trainers the best would be an initial period of 1 month, then again 2-4 weeks after some 6 month and if necessary again 2-4 weeks after 6 months.

training curriculum for doctors and nurses

the problem is that fistula surgery looks so simple, so everybody involved in gynecology is a fistula surgeon, and turns out to be so difficult
another problem is that surgery cannot be learned from a textbook or a theoretical lecture or a workshop but only by **performing the surgery oneself under supervision of an expert fistula surgeon** in a sufficient number of patients
however, before starting with the (surgical) management the trainee must learn and understand first the mechanism of obstructed labor, the complex trauma of the obstetric fistula, the complex anatomy of the pelvis and intrapelvic organs and their different tissues, muscles, ligaments etc and the theoretical solutions
once the doctor-trainee masters all the theoretical aspects, his practical training can start and **step-by-step** he has to be taught the (surgical) management of the obstetric fistula
though the nurse-trainee does not perform the surgery, (s)he must be familiar with all the surgical techniques and all the other theoretical and practical aspects

complex trauma of the obstetric fistula
the enormous variety of the obstetric fistula and other intravaginal, intrapelvic, extravaginal and sytemic lesions due to obstructed labor

anatomy of the pelvis
the pelvic bones, the intrapelvic organs and their relation

urine/stool continence mechanism in the female
anatomy + physiology of continence

history taking
parity, duration of leakage, previous repairs etc

examination of obstetric fistula patients
inspection, vaginal examination and examination of other lesions

classification of the obstetric fistula
based on the quantitative and qualitative amount of tissue loss of the continence_ closing mechanism with consequences for the operation technique and prognosis

immediate management of the obstetric fistula
by catheter and/or early closure

preoperative preparation
laboratory, high oral fluid intake, hygiene

spinal anesthesia
technique, monitoring and complications

surgical techniques
basic techniques for the different fistula types and their adjustment for that specific fistula + other techniques for stress incontinence, bladder stone, vagina atresia etc

handling of surgical instruments
this is difficult inside the vagina and needs expert coaching

intraoperative complications
ureters, hemorrhage, stool contamination etc

postoperative care
catheter management, high oral fluid intake etc

immediate postoperative complications
anuria, blocked catheter, secondary hemorrhage

continence mechanism in the female
theoretical aspects with practical (conservative and surgical) consequences

management of long-term sequelae
urethra stricture, bladder stone, vagina atresia, secondary amenorrhea

postrepair total urine intrinsic_stress incontinence
bladder drill, urethralization_fasciocolposuspension

how to set up a VVF-repair center
in an existing hospital

how to set up a VVF-training center
in an existing VVF-repair center

counseling
personal hygiene, when to start sexual intercourse, subsequent pregnancies and deliveries

depending upon their theoretical knowledge, their surgical skills and their surgical experience, it is clear that the training of each doctor is highly individual

since it takes 4-6 years to become a consultant surgeon, it is also clear that it takes a long time before one masters the **noble art of obstetric fistula surgery**

during their training course the doctor-trainees can only be taught the basic principles of obstetric fistula surgery, then with ups and downs they have to gather their own expertise by hard work

training is a continuous life-long process which never stops

training module

evidence-based as practiced in the national vvf project nigeria

first
selection of an **obstetric fistula management team** consisting of a doctor, an operation theatre nurse, an anesthesia nurse and two pre- and postoperative nurses who are interested and willing to provide a service for the obstetric fistula patients

second
training of the complete team in an **established obstetric fistula training center** with a high turn-over of patients and a high number of repairs
for the doctor 6-8 weeks initially
for the nurses 4 weeks

third
organizing a 5-day workshop to operate a large number of patients in combination with lectures as co-facilitated by the consultant trainer + team for advocacy_publicity that something can be done and to start the obstetric fistula service in that area

fourth
the team starts working on its own with the simple fistulas which they must be able to handle themselves **confidently** after their initial training

fifth
the consultant trainer + team come from time to time for **on the job training** and to handle the more complicated fistulas and to select more staff for training

sixth
after 50-100 personal repairs, the doctor should come for advanced training to the obstetric fistula training center for 4-6 weeks in order to boost his expertise

seventh
the doctor continues his own surgical program and the consultant trainer + team comes from time to time for further on the job training, to assess the service and to handle the difficult fistulas

eight
at any time the doctor comes further training of 2-4 weeks whenever he thinks he needs more training

ninth
after 250-300 repairs and if feasible and if there is a need, the doctor should come to the training center for further **advanced training** to become a **future trainer**

tenth
at any time, be (s)he a doctor or already a trainer, whenever there is a need, (s)he should appeal and come for further training to the established training center

workshops have low value for the initial training but high value for (more) experienced fistula surgeons on specific topics such as postrepair incontinence and definitely value in advocacy and helping large numbers of patients within a short time.

obstetric fistula training center

introduction
In order to cope with the increasing number of obstetric fistula patients in the developing world it is important to have **functioning training centers** where present and future generations of surgeons can be instructed in the (surgical) management of the obstetric fistula. The variety of qualitative and quantitative lesions of the obstetric fistula is such that they can only be taught the basics. Since it is handwork the trainees need at least 10 repairs under strict supervision; following their training they still can operate confidently only the simple fistulas. However, only 15-20% of the fistulas are fit for the trainees, the rest is too complicated or too difficult.
For nurses and other health personnel it is sufficient to have an intensive exposure to the obstetric fistula combined with practical and theoretical lessons.
Following a simple calculation model the following can be demonstrated.

requirements of the trainer
For a trainer to perform well he needs sufficient experience considering the variety and the difficulty grade of obstetric fistula surgery, i.e. a minimum of 400-500 repairs. Otherwise it would be the blind teaching the lame how to cross the road.
In principle the trainer must be a consultant in order to have sufficient authority within the institution, within the set-up of the (government) health care and within the region from which the trainees are coming.

requirements of supporting staff
Since it is teamwork that counts, also his supporting staff should be of high quality in order to teach the trainees, be it a doctor or a nurse or anybody else, the pre-operative care, the anesthesia, the postoperative care and the patient counseling

requirements of the training center
For a training center to function well there must be sufficient operations, at least 300 fistula repairs a year, i.e. 6 operations per week. With less than 300 repairs it will be difficult to sustain a continuous daily intensive training/teaching programme.
With 300 repairs a year there are only 45-60 operations available for the trainees, or only 1 repair a week.
This would mean that the center can only handle 5-6 trainees a year, and that only 1 trainee can be taught at the same time.
During a training period of 2 months, a trainee will be present at only 55-60 repairs out of which he can perform 9-10 simple repairs himself.
However, some will be lucky and some not since the patients are not coming evenly distributed over the whole year; the same applies to the patients with a simple fistula which can be handled by a trainee.
In principle, the center should be a government-owned or a government-recognized training center where government, mission and even private doctors and nurses can attend the postgraduate courses.

on the job training of residents or other doctors in teaching or other hospitals
This takes a long time and is only possible if the trainer has sufficient experience and the number of patients is enough as explained already.
It would be better to assign the residents to a real obstetric fistula repair or training center for 2 months for an intensive exposure to the obstetric fistula.

obstetric fistula repair center

This should be a separate unit with a separate hostel, a separate ward and a separate operating theater with separate staff for pre-, intra- and postoperative care.

In the beginning it can be integrated within an existing hospital and then one fixed day a week has to be a full fistula operating day (no other operations, neither planned nor emergency); but if the number of operations are more than 150-200 a year a specific VVF center should be built.

As it is a fistula repair center it should concentrate on the surgery only, otherwise the professional surgeon and his professional medical staff are wasting their time: a surgeon and his medical staff are not social workers.

To prevent conflict of interest the hostal annex rehabilitation center should be situated outside the hospital premises, but in the neighborhood.

Once the surgical job has been finished other professional social staff have to take over the rehabilitation.

An effort has to be made to keep things simple with straightforward pre-, intra- and postoperative guidelines.

The one thing that cannot be compromised is a high-quality operating table; except for sharply curved THOREK scissors and sharp DESCHAMPS aneurysm needle no special instruments are needed.

Spinal anesthesia is safe, simple, effective and cheap since it does not need expensive equipment.

For laboratory investigations Hb and serum creatinine would be advisable; urine investigation is unreliable.

X-rays are not required; even if the X_IVP would show abnormalities this does not mean that the patient cannot be operated.

Physiotherapy is something for the rehabilation center but only if fixed contractures have developed; immediate mobilization is the best to prevent them.

The treatment of obstetric fistulas should be free of charge but the patient should bear some of the costs.

In order to bring the service towards the patients **it is better to have multiple small centers than one large center in a country** especially since the action radius of an obstetric fistula repair center is 100-120 km. In planning a nation-wide service this should be taken into account.

obstetric fistula rehabilitation center

Rehabilitation means: prepare/help the patient to take full control of his/her life ... and does not mean: make the patients depending upon the service depriving them of their own responsibilities, that is the wrong approach and has nothing to do with rehabilitation.

The **best rehabilitation** is a **successful repair**; then it will take place spontaneously.

Only the **"incurables"** (after multiple repairs which did not stop the continuous urine leaking, be it a residual fistula or total postrepair urine incontinence) need vocational training in order to earn their own living. Though for these unfortunate girls/women life has ended, someway somehow they have to continue.

This is not a job for the professional surgeon and his professional medical staff but for other **social** professionals. Unfortunately, the social professionals are not or not yet interested.

The best would be a hostel annex rehabilitation center in the neighbourhood of a fistula repair center where the social workers could do their job. This center has to be outside the hospital, otherwise there will be a negative impact upon the functioning of the fistula repair center.

What happens if there is no separation of hospital and rehabilitation services is the following. Since the women have to survive, males come at night and visit them in the center (for some males the smell of urine seems to be an aphrodisiac; as well the women are highly attractive!), some of them fight over one woman and males and females fight the staff if they are trying to prevent them from entering the compound and break the wall if the gate is closed; many times the police has to intervene. However, if the police is asked to prevent this from happening, they take the patients as girlfriends and it is even more difficult to reverse this. As well the old patients are instructing the new patients in all types of behavior which is not in line with the hospital instructions. They have their own ideas about the pre- and postoperative management and some of them even sell native medicine to the new patients with terrible consequences. They claim the best food and the best places in the hostel for which they befriend the male staff of the hospital or bribe the female staff. That is all fine in the struggle for survival and everybody is free in doing what (s)he has to do, but for smooth running of hospital services such as obstetric fistula surgery it is not ideal.

The hostel_rehabilitation center has to be in the neighbourhood of the fistula repair center for quick communication and smooth cooperation.

To avoid conflict of interest the fistula repair center has to come under the Ministry of Health and the hostel annex rehabilitation center under the Ministry of Social Welfare; however, there must be good cooperation.

However, do not convert these rehabilitation centers into **fistularia** since anybody must take the full responsibilities of his/her own life

nation-wide obstetric fistula service

any country with a high prevalence of the obstetric fistula should make an effort to organize and execute a nation-wide feasible and sustainable obstetric fistula service, especially since it will take another century to prevent it from occurring

in order to bring the service towards the patients (and not the other way round) and taking into account the action radius of an obstetric fistula center of 100-120 km the following is suggested to create a nation-wide network of functioning centers
one big referral center for the whole country (where patients have to travel long distances, the awareness that something can be done is low and the referral system is not functioning) is not the ideal set-up

national masterplan with national program
developed and coordinated by the national ministry of health; with its own budget

regional masterplan with regional program
developed and executed by the regional ministry of health; with its own budget

national obstetric fistula training center(s)
at least one training center and if needed more training centers depending upon the size of the country and the distribution of the health services
if the country has been divided into large geopolitical regions, each region needs its own training center
each center has to be an **independent** obstetric fistula hospital (not a subunit of the gynecologic department) to ensure that the patients and the trainees get **first priority** without interference by others
however, each center should be liaised with the (university) teaching hospital

regional obstetric fistula repair centers
each region, be it state, province or département needs its own obstetric fistula repair center, preferably in the capital of the region
this repair center should be an **independent** obstetric fistula hospital where only VVF and RVF repairs and related operations are performed; so no interference by others for gynaecologic operations or emergency operations such as caesarean section

incentives for the personnel
since there is no money to be made in the management of the obstetric fistula somehow the highly qualified and educated personnel have to be compensated, financially and in career planning; otherwise they will leave

step-by-step implementation
things cannot be changed overnight but an effort has to be made so that within 2-5 years each country has its own functioning service in place and then sustain it

training curriculum for residents in obstetrics and gynecology
actually each and every gynecologist should have ample knowledge of the obstetric fistula and be able to perform the simple repairs as that is his job; however, during their training they have not been exposed sufficiently and now it is too late
therefore it would be better for the present and future residents to have an **intensive exposure** to the obstetric fistula of 2 months in either a repair or a training center instead of exposure to urology and their official curriculum should be adjusted

obstetric fistula tourism

or as a hausa proverb says
the king in one country is a beggar in another

report american sugeons' visit to sokoto from 21/9- thru 29/9-97

for political reasons and because there was a lot of money to be shared locally amongst the organizers, the usual thing in africa, a team of american surgeons (gynecology/surgery/plastic surgery/anesthesia) from a University Teaching Hospital came to maryama abacha hospital to perform obstetric fistula surgery

though in their own surroundings they are experts, their experience in obstetric fistula surgery was **zero** simply because there are no obstetric fistulas in america

the chief consultant fistula surgeon offered to help and was willing to train them but they were so **arrogant** that they refused to talk to him since they **knew it all**

so they teamed up with some nigerian doctors who did not have the slightest clue as well; in total they were nine: dr e, dr b, dr h, dr k, dr k, dr b, dr g, dr v and dr b

to **show off** they started with the most complicated patients who had been operated already once or even more times

they worked in two teams from 9.00 am up to midnight since operation time got out of hand: from a minimum of 2 hours up to 7 hours!

on the very first day one patient died immediately afterwards, and her name was not entered in the operation register whilst all the documents disappeared (american **litigation**)

after 3 days the resident doctors who came to **"admire"** their surgical skills walked out on them though in a polite hausa way

after 6 days the remaining patients refused to be operated since they are highly intelligent and noticed that none of the operated patients were ok but started to leak already after 1-2 days; as well some of the staff advised them so

so the last two days only 1 desperate patient a day came forward to be operated

they were only interested in the surgery and did not even bother about postoperative care and follow-up and left the mess for the chief consultant and his team to be sorted out

the **'result'** of their **arrogance** and **obstetric fistula analphabetism** is the following:

total number of patients operated:		32 patients
outcome:	**early breakdown_leaking:**	**30 patients**
	not leaking (ureterosigmoidostomy):	**1 patient**
	postoperative mortality:	**1 patient**

it is left to the reader to draw his/her own conclusions about the **value of obstetric fistula tourism**

list of obstetric fistula patients operated from 21/9- thru 29/9-97

patients name/town	op date	approach	outcome
h m mabera	21/9-97	abdominal	leaking
h m gandi	21+27/9-97	abdominal	leaking
z l sabon_birni	21/9-97	vaginal	leaking
? ? ?	21/9-97	abdominovaginal	died
a a yabdo	22/9-97	vaginal	leaking
a m kwana	22/9-97	abdominal	leaking
a m ginga	23/9-97	abdominal	leaking
f m shuni	23/9-97	abdominal	leaking
h m sokoto	23/9-97	abdominal	leaking
f g katami	23/9-97	abdominal	leaking
a l kura	23/9-97	abdominal	leaking
i g bodinga	23/9-97	abdominal	leaking
z u achida	23/9-97	abdominal	leaking
r m gwadabawa	24/9-97	abdominal	leaking/infected
a s moriki	24/9-97	vaginoplasty	leaking
s m wurno	24/9-97	vaginal	leaking
s a gwadabawa	24/9-97	abdominal	leaking
k m gada	24/9-97	abdominal	leaking
r m samamum	24/9-97	abdominal	leaking/infected
n m gwadabawa	24/9-97	abdominal	leaking
a y chimola	25/9-97	abdominal	leaking
i i hamali	26/9-97	abdominal	leaking
h b dankaiwa	26/9-97	vaginal	leaking
a u dange	26/9-97	vaginal	leaking
a m dange	27/9-97	abdominal	leaking
h l dange	27/9-97	abdominal	leaking
a i ilorin	27/9-97	**ureterosigmoidostomy**	**ok**
r i gwadabawa	27/9-97	vaginal	leaking
m h binji	27/9-97	abdominal	leaking
a a sokoto	28/9-97	vaginal	leaking
h b mabera	29/9-97	vaginal	leaking

after long deliberations the author decided to come out with this detailed report about **obstetric fistula tourism** since this has been repeated several times by others and it seems that some groups/organizations are planning to make the same mistake; some even think of involving the tourists in **training**

however, neither the patients nor the tourists are helped by such an exercise

it is laudable to help these poor patients but then **make sure one is trained properly** by expert fistula surgeons who are **highly willing to do so!**

kees waaldijk, MD PhD
chief consultant fistula surgeon

april 2005

training doctors and staff from the industrialized world
whilst educating the organizations

there are many doctors, nurses and other persons in the industrialized world who are very much willing to help the obstetric fistula patients in the developing world; for this they are volunteering to spend their own money (expensive air travelling, accommodation, feeding, no income), their time and their expertise; however, **no** experience with the obstetric fistula

there are organizations in the industrialized world willing to sponsor initiatives that will contribute to the management of the obstetric fistula patients by sending teams to operate them thinking that an expert surgeon in europe, asia, australia or united states is also an expert fistula surgeon in africa; however, they are **wrong**

it would be ridiculous not to make use of good-willing individuals and good-willing organizations; so we have to **educate** the organizations and we have to **train** the volunteer surgeons and staff **in the (surgical) management of the obstetric fistula** under rather primitive conditions in an **african** hospital

criteria for doctors and staff
they must have been working in a developing country for some years and willing to spend regular time (once or twice a year some weeks) in the future in a developing country; otherwise it is a waste of valuable time by the expert fistula surgeon

in nigeria the following procedure is used

first
initial visit of 2-4 weeks
teaching the complex trauma of the obstetric fistula, inspection and examination of the obstetric fistula patients and their lesions, spinal anesthesia and some personal **vaginal** repairs depending upon how long they stay
since most of them are already expert surgeons they do not need the intensive coaching of instrument handling
at the end they all say they never knew and never realized how complicated the surgical management of and how extensive the obstetric fistula trauma is

second
after their visit they know which fistulas they can handle themselves and which not, and now they can start with their surgery in order to gather their own expertise

third
follow-up visit of 2 weeks
after some 50 repairs they come back to discuss their experience and to upgrade their skills, if they feel they need it

fourth
they continue their work also operating the more complicated fistulas, and at any time they can come back if there is a need for **advanced-level fistula surgery**

fifth
follow-up visit of 2 weeks
actually one highly experienced urologist wants to come back for the fourth time

surgical training of non-doctors or even non-medical persons discrimination and hypocrisy

there is a debate over the training of clinical assistants or even non-medical persons

first, do not start a practice in africa which one never would accept in europe or the usa; are africans not human beings who deserve the best

then, obstetric fistula surgery is the most difficult and complicated surgery i ever encountered in my life; so it needs the right education to become a doctor, the right surgical training to become a specialist and then the right postgraduate training to become a fistula surgeon

this reflects in the statement by some organizations that a programme is successful if 85% closure rate can be achieved

however, what kind of philosophy and surgery is that; we should aim at 100%

learning a trick is not sufficient; one needs full understanding of the complicated anatomy and physiology of the pelvis, pelvis floor, urine/stool continence mechanism in the female etc etc; one has to know exactly what has been lost due to pressure necrosis; how to perform reconstructive surgery if the normal functional anatomy and pathophysiology are not known

only then with expert surgical skills one may be able to handle the obstetric fistula with care to full satisfaction of the patient and the surgeon

if a non-doctor is attending a postgraduate surgical course (s)he will get a licence to perform surgical malpractice

why not sponsor this non-doctor to become a real doctor first and then only if (s)he has achieved this send him/her for **postgraduate** training in the **noble art** of obstetric fistula (surgical) management; same practice as in the industrialized world

discrimination: what is good for africa is not good enough for europe/usa

lastly, the people who propagate this practice are not believing in it themselves as i have never seen a non-doctor and/or non-medical “fistula surgeon” been appointed as chief medical director of their hospital (with all the financial benefits)

(s)he can be trusted with the responsibility of invasive surgery and it is good for fund raising, but (s)he **cannot** be trusted with the administrative/financial responsibility of chief medical director **what a hypocrisy**

kees waaldijk, MD PhD august 2011

fistulas for beginners
objective characteristics and setting standards as based on evidence

kees waaldijk MD PhD

abstract
due to vocal statements by verbal surgeons in the industrialized world and political statements by the major aid organizations, there is a lot of misunderstanding about obstetric fistula surgery and training such as the patient can be cured by a simple operation and beginners need rapid hands-on training for a short period
however, **there are no simple fistulas** considering the complex trauma of the obstetric fistula and the enormous variety in tissue loss; it only may look simple in the hands of the few experienced fistula surgeons
still one has to start somewhere and there are vesicovaginal fistulas suitable for beginners as based on objective findings as to size, location, tissue quality, mobility of fistula/tissue/cervix, width of pubic arch, depth of vagina, concomitant rectovaginal fistula/sphincter ani rupture, previous repairs etc; all the characteristics of a small type IIAa fistula are outlined in order to help trainers and trainees
second, the first priority in training is to teach and demonstrate the anatomy of the pelvis floor, the obstetric pressure gradient within the pelvis, the variety in tissue loss, a systematic examination of these lesions, a classification as based on the quanti tative/qualitative amount of tissue loss and the different solutions as customized to that specific fistula
only if the trainer and trainee have full understanding of all the theoretical/practical aspects, then the last thing is hands-on training under direct supervision according to the basic principles of general, urologic, gynecologic, colorectal, septic and especially reconstructive surgery to reconstruct the functional anatomy all in order to restore the normal physiology; this is not something for inexperienced surgeons
out of the 10,529 patients operated during 1983-2010 in the 4 centers katsina, kano, zaria and nguru where there is reliable follow-up till at least 5-6 months post operatively, only 1,236 (12%) fulfilled these criteria and were operated by the author and his trainees with the following results:
final healing in 1,230 (99.5%) as 1,221 (98.8%) healed at first attempt and another 9 at second attempt; 3 patients had a ureter fistula as well which was reimplanted successfully at separate attempt and 4 patients did not report for 2nd attempt
out of the 1,230 patients with a healed fistula 1,223 were completely continent whilst only 7 (0.5%) had persistent postrepair incontinence but they did not report for inconti nence surgery

introduction
there is a lot of debate about obstetric fistula surgery and training most of it by verbal surgeons in the industrialized countries with no or little personal experience and by the major organizations who use it for political reasons and for fund raising
this all resulted in many wrong assumptions and instructions without any evidence such as early-age delivery being cause of obstetric fistula, rapid intervention hands-on training without proper theoretical instruction and trying to come up with all sorts of classification etc whilst stressing the need for evidence based results; something like the blind teaching the lame how to cross the road; little knowledge is dangerous
after 28 years of obstetric fistula surgery with 21,000 systematic repairs with evidence-based long-term follow-up including appropriate operation reports and

database of more than 250 parameters per patient, systematic research and training of some 350 doctors in one form or the other and having set up 14 vvf-repair centers and 2 training centers, it is time for the author to set certain standards for classification, operation techniques, research and training

there are no simple fistulas since obstetric fistula surgery is complicated reconstructive surgery of pressure necrotic tissue loss in order to reconstruct the functional anatomy in an enormous variety of quantitative and qualitative amounts of pressure necrotic tissue loss; it only may look simple in the hands of the few highly experien ced fistula surgeons

and it is the wrong mentality to have “hands on” training without understanding the complex trauma of the obstetric fistula; where in the industrialized world is this being practiced?; and why should there be different standards for the developing world?

however, surgeons have to start somewhere in getting their experience in the science and noble art of obstetric fistula surgery

so the first part, like in any surgical training, is teaching the anatomy and function of the pelvic floor structures like the importance of the pubocervical fascia, the urine and stool continence mechanism in the female, the arcus tendineus fasciae and arcus tendineus of levator ani muscles etc; then the variety of pressure necrotic lesions due to obstructed labor in relation to the pelvic floor structures and classification; then the principles of (reconstructive) surgery and physiologic wound healing processes etc

the second part is to demonstrate the enormous variety of the complex obstetric fistula trauma in the patient and explain the principles as based on the findings in reconstruction of the functional anatomy since and the fistula has to heal and the physiology has to be restored resulting in continence

the third part is for the trainees to analyse and determine themselves the quantitative and qualitative amount of tissue loss due to pressure necrosis and to make up their mind how to deal with these

the very last part is the hand-on surgical training where they can practice their own surgical skills though under strict supervision

objective criteria

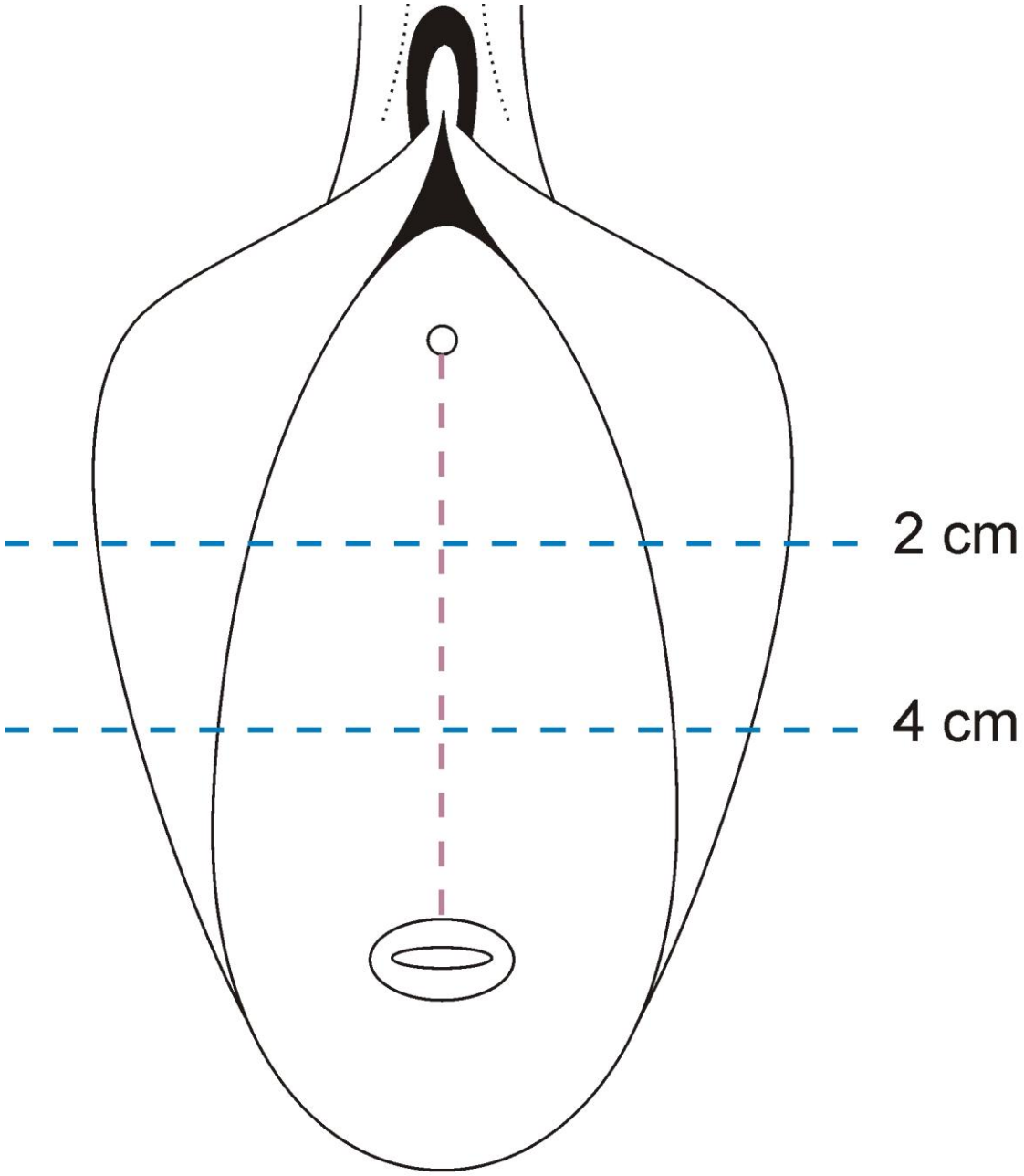
based upon an extensive experience of more than 21,000 repairs with excellent evidence-based results in closure of the fistula after one or more operations in more than 98% with severe incontinence in only 2-3% there are some fistulas which are suitable for beginners; the objective characteristics of which are outlined in table I with drawings in fig 1 and 2

table I

characteristics of fistulas for beginners

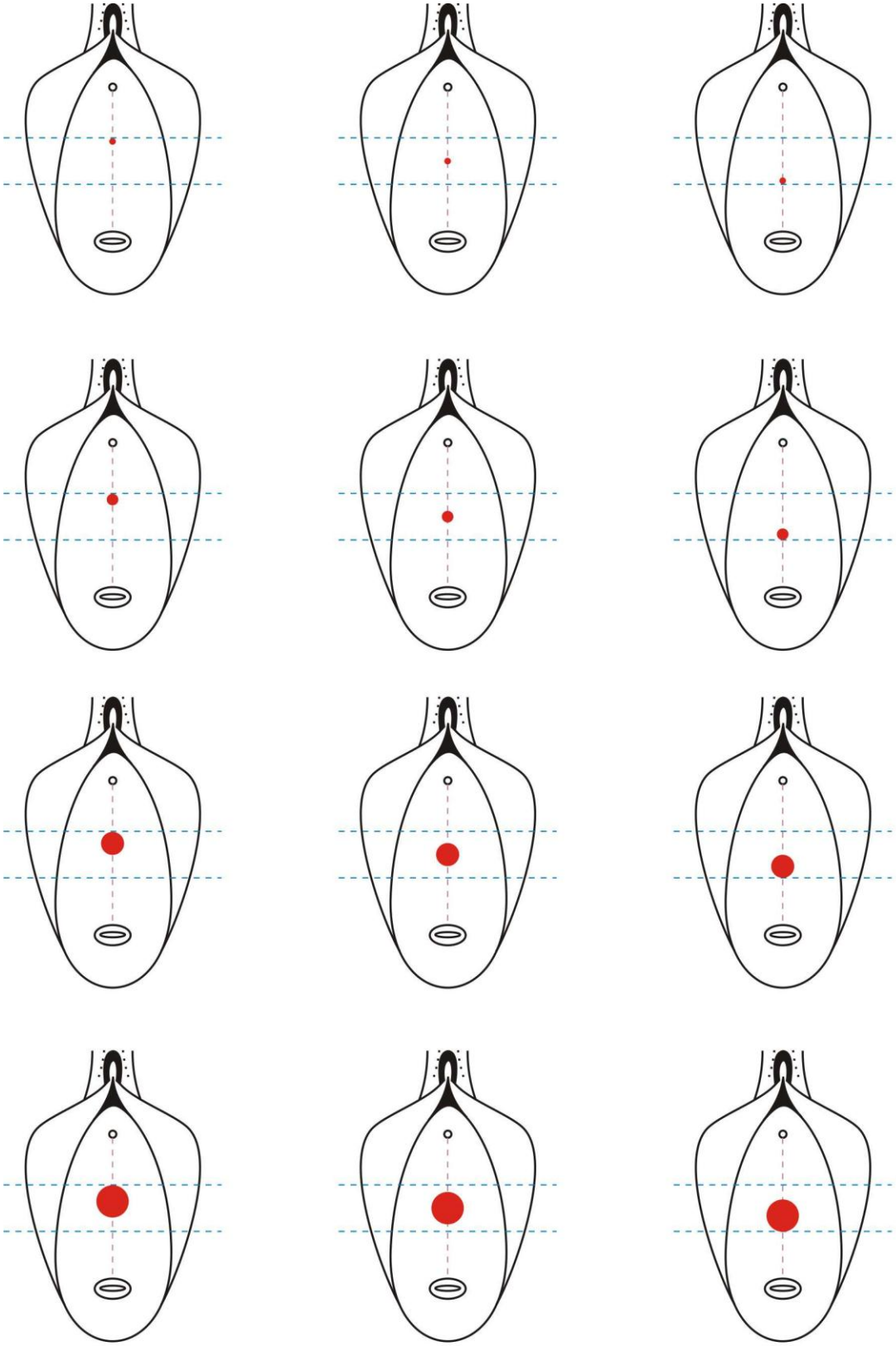
size:	0.2-1.5 cm
location:	midline
distance from euo:	2-4 cm
classification	small type **IIAa**
ruga folds:	intact
mobility:	good mobility of fistula, tissues and cervix
pubic arch	$\geq$ 85°
vagina depth	$\geq$ 10 cm
previous operation	no contraindication as long as no major scarring and no mutilation
rectovaginal fistula	no contraindication
no severe obesity	obesity makes any operation complicated

fig 1 location of fistula



fistula for beginner

fig 2 several possibilities



fistulas for beginner

size
fistulas < 0.2 cm are difficult to handle and need special insight and operation principles
location
fistulas not in the midline are difficult to handle since instrument handling and tissue handling is complicated
distance from euo
any proximal fistula is difficult (instrument handling) and if it is too distal the delicate urethra (main continence structure) may be traumatized
classification
small type **IIAa** fistulas where **II** means involving the urine continence mechanism, **A** no (sub)total urethra involvement and **a** no circumferential defect
ruga folds
when the ruga folds are not intact there is far more trauma than anticipated at first sight and one has to determine exactly the amount of tissue loss
mobility
if mobility is poor then mobilization of tissue and tension-free closure may be compromised or even impossible; even after closure there may be traction upon the repair, such as. when a retracted cervix (after cesarean section) is pulling on the repair when the patient is coughing
pubic arch
if the pubic arch is < 85° then access may be poor which would make the operation more complicated
vagina depth
if the vagina depth is < 10 cm there is already substantial tissue loss
previous operation
if operated by expert surgeon there is almost no scar tissue, however, if operated by a surgeon without expertise there may be excessive scar tissue and mutilation
rectovaginal fistula
a rectovaginal fistula does not interfere with the operation technique or healing; a sphincter ani rupture makes the access even better
however, beginners should not combine the vvf and rvf in one session but concentrate totally on one at a time
severe obesity
severe obesity makes any operation complicated; if so the patient should lose weight first before she can be operated

preoperative preparation
the normal preoperative preparation should be followed like in any other operation; special for the vvf is abundant preoperative oral fluid intake until the spinal anesthesia which will clean the fistula, bladder and urine and hydrate the patient so that spinal anesthesia becomes safe, ureters can be identified and the occurrence of catheter blockage is minimal and to ensure patient compliance

operation technique
under spinal anesthesia and in the (exaggerated) lithotomy position a proper examination is performed whereby the above-named checklist is followed; then the surgeon should ask himself if he is able to handle this fistula competently
a liberal use should be made of episiotomy to improve the access to the operation field
an incision is made at the fistula edge with bilateral transverse extension; then minimal sharp dissection of the anterior vagina wall from the pubocervical fascia (with

adherent bladder/urethra), identification of the pubocervical fascia, a transverse closure of the pubocervical fascia (with adherent bladder/urethra) is made by a single layer of inverting polyglycolic acid; the patient is asked to cough (with urine in the bladder) to check for urine leakage thru suture line or urine thru euo
a foley catheter ch 18 is inserted and it is checked if urine flows thru the catheter which means 3 things; catheter is in the bladder, at least one ureter is functioning and the patient is not in shock
the bladder capacity is estimated and the urethra length is measured in mm
the anterior vagina wall is only adapted with 2x everting nylon sutures according to the principles of septic surgery
the episiotomy is closed, and secure check made of the hemostasis; as routine a vagina pack is not inserting unless there should be diffuse oozing which cannot be controlled otherwise

postoperative care
intensive care is normally only for 12-24 hours with liberal use of analgetics; no morphine or morphine derivatives since these interfere with breathing
the following morning the patients have to be mobilized like in any other operation; besides good for their general health it is also good for prevention or treatment of contractures
abundant fluid intake for as long as there is foley catheter inserted which is left in for a minimum period of 14 days; if nonabsorbable sutures have been used for adaptation of the anterior vagina wall these are removed 1 week after catheter removal
upon catheter removal the patients is instructed to continue abundant oral fluid intake and to urinate frequently, to refrain from sex for 4-6 months, to come for regular follow-up up till 6 months postoperatively, to report when 3 month pregnant and to go immediately when labor pains start to a hospital at subsequent deliveries
during the recovery phase all the patients are attending rehabilitation courses in special centers like literacy class, making soap, sewing etc

documentation
an electronic relevant operation report is made of every patient including a drawing of the fistula and the other findings of the complex obstetric fistula trauma, electronic photographic documentation is performed before and at operation end, the follow-ups are written down on the operation report and all the data (more than 250 parameters per patient) are entered into an extensive database;
since 2005 at operation end the results are prospectively predicted at 5% range from 5% to 95% as to healing and as to continence and for objective reasons written down in the operation report and entered into the database;
this unique documentation is hard to find elsewhere, especially the prospective predictions as to healing and as to continence of each operation

results

out of 10,529 patients operated during the period 2008-2010 in katsina, kano, zaria and nguru where there are reliable follow-up data, only 1,236 (12%) fulfilled the above-outlined criteria

the evidence-based postoperative results have been analyzed in table II.

table II

results in 1,237 patients operated during the period 1983-2010

healed first attempt	1,221 (98.8%)
healed second attempt	9
whilst 4 did not report for another repair	
postrepair continence surgery	4
all totally continent	
healed final outcome	1,230 (99.5%)
persistent incontinence only 7 (0.5%)	
however, they did not report for incontinence surgery	
mortality	2 (< 0.2%)
native medicine 1; cerebrospinal meningitis 1	

some particulars of the fistulas which did not heal by first attempt in the centers are given in table III

table III

some particulars of the 15 fistulas which did not heal at first attempt in the centers

katsina			
vvf 437	operated 1x	vvf 489	ok
vvf 605		native medicine mortality	
vvf 870		no reporting for repair	
vvf 1377	leaking > 20 yr	no reporting for repair	
vvf 2739	trainee	csm mortality	
vvf 2809	operated 1x; trainee	vvf 3233	ok
vvf 4048	operated 1x; trainee	vvf 4188	ok
vvf 4536	failed catheter	vvf 5478	ok
vvf 4661		vvf 5127	ok
vvf 7029	trainee	vvf 7224	ok
kano			
vvf 47	operated 2x, leaking 10 yr	vvf 757	ok
vvf 195	trainee	vvf 044	ok
vvf 1098	trainee	no reporting for repair	
vvf 1225	trainee	vvf 1339	ok
vvf 2397	trainee	no reporting for repair	

short- and long-term follow-up

3 patients had also a concomitant ureter fistula; a vaginal implantation was performed in 2 and an abdominal implantation in 1, all in another operation session, with total cure of the patient

10 patients developed a recurrence due to early sex; one patient refused operation and the other 9 were cured after another repair

only 4 out of the 11 patients with severe postrepair incontinence presented for inconti nence surgery and were cured

1 patient developed a uv-stricture and was cured by dilatation/urethrotomy; 1 patient developed a bladder stone which was removed with cure of the patient

259 patients (21%) reported back whilst pregnant or after subsequent delivery; 56 developed a 2nd obstetric fistula and were all cured after repair; 7 developed a 3rd obstetric fistula and were cured by repair; and 1 patient developed a 4th obstetric fistula cured by repair

discussion

all the operations have been performed by one surgeon and the trainees under his personal strict supervision under similar conditions in the 4 centers where there is reliable evidence-based postoperative follow-up till at least 6 month postoperatively; with evidence-based long-term follow-up over years; the patients operated by the trainees were all personally selected by the surgeon in a prospective manner
the results were conform the prospective predictions

references

k waaldijk: obstetric fistula training; guidelines; presented at the unfpa meeting on training april 2005, niamy; reprint 2010, waha-international, paris

k waaldijk obstetric fistula surgery; art and science; basics, 2008; reprint 2010, waha-international, paris

first edition december 2010

final edition march 2011

training curriculum for doctors

on

(surgical) management of vesicovaginal and rectovaginal fistulas

at

Babbar Ruga National Fistula Teaching Hospital
katsina

and

Laure Fistula Center
Murtala Muhammad Specialist Hopital
kano

kees waaldijk, MD PhD
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first edition december 1996

last edition august 2011

training curriculum for doctors
on
(surgical) management of vesicovaginal and rectovaginal fistulas

interview
- personal introduction
- professional evaluation of the trainee
- purpose of training
- terms of training
- isofs-figo-rcog training manual
- handing out teaching materials
- logbook

introduction
- definitions and terminology
- mechanism of action
- combination vvf/rvf
- medical consequences
- social consequences
- incidence
- prevalence
- public health problem
- history/literature review

anatomy of female pelvis
- bones
- pelvic floor anatomy
- arcus tendineus fasciae
- pubocervical fascia
- arcus tendineus of levator ani muscle
- levator ani muscle
  - pubococcygeus muscle
  - iliococcygeus muscle
  - (ischio)coccygeus muscle
- internal obturator muscle
- piriformis muscle
- sacrotuberal ligaments
- sacrospinous ligaments
- sacrouterine ligaments
- greater sciatic foramen
- lesser sciatic foramen
- blood supply
- innervation

physiology of pelvic floor structures

urine continence mechanism in the female
- whole urethra + bladder neck 4-5 cm
- anatomy of urethra
- crucial role of pubocervical fascia as stabilizing factor

stool continence mechanism in the female

internal sphincter: anorectum 4-5 cm
external sphincter: sphincter ani
perineal body as stabilizing factor

causes of vvf/rvf

obstetric	pressure necrosis + (surgical) trauma during labor
traumatic	surgery or other
chemical	
infectious	
cancer	
radiation	
congenital	

complex trauma of the obstetric fistula

intravaginal lesions due to pressure necrosis
vulva lesions due to pressure necrosis
local extravaginal lesions due to immobilization or neurologic trauma
neurologic lesions due to intrapelvic compression
neurologic lesions due to eclampsia
systemic lesions due to enormous trauma of prolonged obstructed labor
systemic lesions due to blood loss
lesions due to continuous urine leakage
lesions due to restriction of oral fluid intake
sex/condition of infant born

classification

according to location	most important
according to size	additional

consequences of classification

operation technic principles
healing as to closure
healing as to continence

history taking

parity
how many alive
duration of leakage
onset of leakage
home/hospital delivery
sex/condition of infant
menstruation
social status
yankan gishiri
eclampsia

clinical examination

general health status: nutrition, anemia
vaginal examination **without** anesthesia
anal reflex
if negative check for saddle anesthesia
peroneal nerve trauma: grading of drop foot 0-5
accessibility
vagina stenosis
urine dermatitis
bedsores
atonic bladder
peliminary classification
can you handle it or not
if you are not sure, **refer patient to somebody more experienced**

surgical classification with regards to operation technic needed

based on anatomic/physiologic location
type I
type IIAa
type IIAb
type IIBa
type IIBb
type III

laboratory investigation

hemoglobin and serum creatinine, if possible

x-ray investigation

none

examination under anesthesia (eua) as separate procedure

utterly nonsense; only a **money maker** for people who cannot handle vvf

immediate management of fresh obstetric fistulas

catheter
debridement
cleaning
early closure
hematinics
high-protein diet
immediate mobilization

preoperative preparation

high-protein diet
hematinics
personal hygiene
enema
shaving

equipment/instruments/materials

operating table
normal vaginal instruments
special instruments: sharply curved scissors, aneurysm needle
polyglycolic acid
nonabsorbable sutures
needles

anesthesia

spinal anesthesia
long acting, bupivacaine 0.5%
level of spinal tab: normal, low, high
sitting position
head flexed anteriorly/thorax always elevated
major complications
minor complications
blood pressure before/during/after operation

position on operating table

exaggerated lithotomy position
never knee-elbow position

manpower

surgeon
instrumentating theater nurse
no assistant(s): the vagina is a one-man place!
assistants are restricting the surgeon in maneuvering his instruments

route of operation

exclusively the vagina
nb abdominal approach: skin, subcutis, fascia, muscles, fascia, peritoneum, abdomen, peritoneum, bladder and then one is in the vagina; so **why** do not start there immediately?? what a trauma/waste of energy!

accessibility

suturing labia minora to inner thighs
episiotomies if necessary
weighted AUVARD speculum
no retractors: one instrument inside the vagina is already a crowd! and more are hindering the surgeon in maneuvering his instruments

assessment on operating table under anesthesia

pelvis: pubic arch, AP diameter, generalized contraction etc
size of fistula in cm
location of fistula: midline, right, left
distance from external urethra opening to fistula in cm
distance from fistula to cervix/vagina vault in cm
circumferential defect: yes/no
scar tissue, texture, mobility
definite classification
make up your mind what to do exactly
make yourself comfortable/check everything before you start operating

operation technic

check for ureters
incision
sharp minimal dissection/mobilization
bladder/urethra closure: transverse/longitudinal
static bladder capacity
FOLEY catheter and fixation
urethra length
elevation of bladder neck
vagina wall adaptation
episiotomy closure
no routine vagina pack
check urine flow
check blood pressure
detailed operation report

postoperative care

check for vital signs for 4-6 hr
high (oral) fluid intake
regular check of catheter
immediate mobilization
urine output: colorless like clear water
no routine use of antibiotics
antibiotics only on indication: generalized sepsis, pneumonia
hematinics
personal hygiene

surgical aftercare

removal of episiotomy sutures after 7 days
indwelling catheter for at least 2 wk
    if necessary (early closure) 4 wk resp. (atonic bladder) 6 wk
catheter removal in operation theater 2-4-6 wk later
high oral fluid intake and frequent passing of urine
removal of nonabsorbable vagina suture 1 wk after catheter removal
ask for leaking, incontinence and spontaneous miction
check for healing, elevation and stress/urge incontinence
bladder drill for incontinence

postoperative check-ups

regularly up to 6 mth
no sexual intercourse during this period
continue drinking and frequent passing of urine
ask for leaking, incontinence and spontaneous miction
check for healing, elevation and stress/urge incontinence
if in doubt, dye test
the dye no lie

patient counselling

to come back at subsequent pregnancies at 3 mth amenorrhea
to attend antenatal care regularly
fersolate and folic acid
to deliver in hospital by **elective** cesarean section
patient card with written instructions + operation report

documentation

extremely important for monitoring program
history
detailed operation report
check-ups
evaluation reports

prevention

no relation to tribe, religion, culture, early marriage or anything else, except for **early intervention by cesarean section (cs) within 3 hours**
only by establishing a **functioning network** of **125,000 obstetric units throughout Africa** where **emergency cesarean section** can be performed **within 3 hours** of **labor becoming obstructed**
detection of problem patients at **antenatal care** (pelvic assessment); then hospital delivery
identifying problems by **partogram**; then **early referral for cs**

the emphasis is placed on **how to manage vvf/rvf under African conditions**.

having finished this course the candidate must have ample understanding of the complex trauma of the obstetric fistula, the obstetric fistula as a major public health problem, as well as he must be able to decide which fistulas (s)he can handle with confidence and which not

certificate only certificate of attendance will be issued

kees waaldijk, MD PhD august 2011

first edition december 1996

competency-based training manual

comments

introduction
the last 50 years i have been working in some kind of teaching/training job on a variety of issues in general and for some 40 years on surgery in special; during my 25 years of teaching/training in the obstetric fistula there have been almost 350 doctors (from illiterate interns with in the end 800-1,000 repairs up to higly experienced surgeons/professors), over 350 nurses and ... other persons in a variety of training programmes continuous on-the-job training of the doctors in 12 different centers, formal training at beginners, at advanced, at very advanced and at trainers level, and informal training programmes at workshop as an introduction; at least 15 of my trainees have performed from far over 1,000 up to over 5,000 VVF/RVF-repairs

general remarks
the time and energy the trainer has to invest (see my logbook training february-march 2010) is far more than I ever saw in my life in the industrialized world where I spent some 12 years in a training/teaching position out of which 7.5 years as Oberarzt in der Chirurgie in full teaching hospitals in Germany with the assignment to teach the residents surgical skills and management
where is a professor in the whole world giving so intensive **private** training/teaching to a resident doctor in training having a trainee some 14 hours a day continuously around him and that 7 days a week
if it is 100 hours per trainee over a period of 4-6 years the trainee is very lucky; most of the training is being done by senior registrars and chefs de clinique
where did I see/experience full scientific explanation of mechanism of pathology, pathophysiology, pointing out the specific traumatic lesions, teaching live anatomy of the pelvis floor, step-by-step teaching and step-by-step prognostic prediction during each and every operation of what is going to happen (and why) to the tissues involved before each step and then check if that really happened after each and every step, questions & answers during as well as after the procedure and then that followed up by lectures about the scientific background with later on extensive discussions about everything
because this is how/**what we teach**/train: **not a trick but insight/understanding**

there is **no** time/energy : reward **benefit** for the trainer
in the industrialized world the trainee has to contribute to the running of the medical work in the department, actually without resident doctors (being among the cheapest employees) most teaching hospitals would have to close down
here the trainee does not give anything but only takes everything and benefits 100%; however, the trainer gives everything but takes only the trouble and benefits 0%
as well all kinds of arrangements like visa, accommodation, transport etc have to be made

that is not a healthy situation and the worst **unbalanced** contract one can get in life

special remarks

this manual can only be implemented if a trainee comes for a minimum of 6 month to 1 year and even that period is not sufficient
however, here the trainer is expected to train/teach the trainee the **noble art and science of obstetric fistula management** within 4-6 weeks under rather primitive conditions; though in the industrialized world postgraduate training in urogynecology will take a minimum of 4 years after having been trained as a gynaecologist, urologist or surgeon for a period of 4-6 years under optimal conditions

introduction
no comments

purpose of the course
a holistic care is a utopia (even in the industrialized world) and invented by **verbal** surgeons who can only diagnose the fistula by the smell of urine; it may work for fund raising; however, i still have to see the first patient healed by verbal rhetoric
the best way to treat the **whole** patient is by **closing the fistula**; that is why the patient comes to the surgeon since that is his profession; his responsibility is to perform his surgery to the best of his knowledge, expertise and skills out of compassion with the suffering of the patient
do not shift responsibilities towards the surgeon which are out of his profession
even if it turn out she has become **"incurable"** in the end the patient is responsible for her life and **certainly not** the surgeon
rehabilitation means one teaches the patient how to take care of her life herself and not to make her dependent upon others for the rest of her life

target groups
though i always propagate the whole team (surgeon, theatre nurse, anesthetic nurse and 2 pre- and postoperative nurses) should be trained, this hardly happens and only the surgeon comes for training though there is enough money available
this manual only deals with surgeons

training and facilitation
no comment

performance assessment
besides all the clinical teaching it will be an enormous additional stress for the trainers to fill up all types of assessment forms and writing an appraisal throughout the training period and at the end

learning and assessment support

course timetable and checklist
it is very good for the trainee to write down everything (s)he sees and does during the period of training; in the end it can be discussed with and signed by the trainer

learning session

lectures	ok
group work	how if the surgeon comes alone
bedside teaching	ok
team discussion	how if there is no team
video learning sessions	the problem: it is 2D for a 3D situation

role play session	is the daily reality not sufficient; why make a reality into an artificial role play; there is so much to do; so do not waste valuable time
demonstration/participation	ok; explicit demonstration of the actual obstetric lesions and how to deal with them, theoretically and practically including pre-, intra- and postoperative care
field visits	in our program the surgical trainee will see multiple centers wih different set-up; however, this does not mean that we are going to visit patients in the field; anybody can do that at his/her own convenience but do not waste my valuable time
live demonstration	is that not double; see demonstration + participation
perform surgery	up to a certain extent; i do not belief in the hands-on approach unless it has been preceded by extensive teaching of the theoretical and practical background of the obstetric trauma; it does not make sense to learn a trick since it takes a life time to become an expert fistula surgeon
reflective log keeping	very valuable

appraisals
that is ok but another stress upon the trainer though in a training period of 4-6 weeks this can only be done half-way and at the very end

reflective learning
that should be done by any doctor right from the beginning to the very end of his professional career

personal development planning
that is a continuous process throughout life

logbook

logbook of competence
depending upon previous educational/experience level
for interns without any experience whatsoever
for general doctors with 3 years of surgical experience
for consultant gynaecologists/surgeons/urologist as introduction
for advanced level when the trainee has performed 100-150 repairs personally
for trainer level when the trainee has performed some 500 repairs personally
for very advanced level for certain specific problems

observation
first one must understand the obstetric trauma in relation to that specific fistula, then the resulting tissue loss and then how to reconstruct the functional anatomy

direct supervision
no comment

independent practice
the more experienced the surgeon, the better he is aware of his own responsibilities
the responsibility of the trainer is only to teach the trainee to the best of his knowledge, experience and skills
however, the trainer is not responsible for what the trainee does afterwards
what the trainee does afterwards is his/her sole responsibility

logbook of experience
that is fine

assessments

OSATS
do not shift responsibilities to the trainer which are not his
the surgical skills, attitude etc etc of the trainee must have been assessed in depth during his/her consultancy training over 4-6 years
is the trainer now (after 4-5 weeks) to tell the trainee he is not fit (though he passed 4-6 years of training somewhere else); how often is this happening in the industrialized world; do you know how sensitive consultants are about their skills??
since it is in writing another extra stress upon the trainer
how to assess the interaction with the team if the surgeon comes without his own team in a totally strange situation; is a top sportsman travelling and performing well without his own team
interpersonal skills vary from person to person and there are more roads leading to rome; we should restrict ourselves to the complex trauma of the obstetric fistula and the surgical skills/management

mini-clinical assessment
another 20?-min extra stress upon the trainer and then another 30 min to discuss it with the trainee and that after each clinical encounter (during the 50-day period february-march 2010 there were some 400 clinical encounters with 225 surgical procedures; that would mean 400 x 50 min = 20,000 min = 333.3 hours of assessment)

case-based discussion
questions & answers is the norm during and after all our surgical and other procedures whereby the stress is again solely upon the trainer
if the discussion now should be disclosed to the patient and written down in the notes how much time will be left for the **only relevant important thing: closure of the fistula**

for your information
each and every patient in our program is treated with all dignity and her full rights, informed about her condition, is asked if she agrees with examination, operation etc (if not which happens rarely, she is/will not be examined/operated), she is given time if necessary to make a difficult decision and right from the beginning up till her last follow-up she receives extensive repeat health education
out of compassion we do everything in our power, and that is a lot, to restore her health and her dignity so she can lead a normal life whatever that may be

for your understanding
it is not my duty (as the **verbal surgeons** do tell us) to train/teach other surgeons; out of myself i have been doing this for the last 25 years, already when **no** one was interested in the obstetric fistula; now it has become very **sexy**

accreditation
this should be done by **isofs** since only they have the real professional expertise; and isofs has a committee specially designed for this purpose

i have been trying to follow this manual step-by-step but found it **too time consuming** besides all the other things i have to do; it is **not feasible** in **short-course** training; but i will use it completely in **full-course** training , e.g. the young nigerian doctor currently under continuous training in babbar ruga national fistula teaching hospital

so in the future i will use this as a **comprehensive guideline** with all the trainees at whatever level

since everybody takes it for granted that the trainee profits 100% and the trainer only 0% i would like raise the question: **?how much is the trainer worth?**

since i do not like hypocrisy i would like to close with a **quote about ethics** from a greek philosopher (Plato or Socrates) some 400 years BC

an ethical person behaves ethically whilst an unethical person will bend the rules

kees waaldijk MD PhD
chief consultant surgeon

april 2010

obstetric fistula surgery training

multiple choice questionnaire

kees waaldijk, MD PhD

chief consultant fistula surgeon

obstetric fistula surgery training

multiple choice questionnaire
for
self-evaluation by trainee

the trainee should fill out this questionnaire at the beginning of the training
and again at the end
so (s)he can evaluate his/her progress him/herself

kees waaldijk, MD PhD

chief consultant fistula surgeon

first edition september 1996

last edition august 2011

questionnaire I

any of the answers given might be correct or incorrect
cross the right answer(s)
read it carefully since some questions/answers are tricky

001 a fistula is a(n):
- infection
- malignant disease
- genetic/hereditary disorder
- abnormal connection between two organs
- abnormal connection between an organ and the outside (skin)
- congenital malformation

002 a fistula can be caused by:
- infection
- trauma
- malignant disease
- radiation
- prolonged obstructed labor
- congenital

003 **V**esico**V**aginal **F**istula (= **VVF**) is an:
- abnormal connection between the bladder and the vagina
- abnormal connection between the rectum and the vagina
- abnormal connection between the bladder and the rectum
- abnormal connection between the uterus and the rectum
- abnormal connection between the bladder and the skin
- abnormal connection between the rectum and the skin

004 **R**ecto**V**aginal **F**istula (= **RVF**) is an:
- abnormal connection between the bladder and the vagina
- abnormal connection between the rectum and the vagina
- abnormal connection between the bladder and the rectum
- abnormal connection between the uterus and the rectum
- abnormal connection between the bladder and the skin
- abnormal connection between the rectum and the skin

005 obstetric fistula is a:
- fistula caused by advanced cervix cancer
- fistula caused by advanced bladder cancer
- fistula caused by advanced rectum cancer
- fistula developed during/after labor
- fistula developed during/after total abdominal hysterectomy
- fistula caused by **L**ympho**G**ranuloma **V**enereum (= **LGV**)

006 real cause of the obstetric fistula is:
- early marriage
- early pregnancy
- early delivery
- sociocultural practices
- prolonged obstructed labor
- yankan gishiri

007 mechanism of action of the obstetric fistula is:
- infection
- pressure necrosis
- instrumentation
- yankan gishiri
- radiation

008 the incidence of the obstetric fistula in situations where there is no access to proper antenatal/obstetric care and the mother survives is:
- roughly 5% (5 out of 100) of those deliveries
- roughly 2% (2 out of 100) of those deliveries
- roughly 1% (1 out of 100) of those deliveries
- roughly 5%% (5 out of 1,000) of those deliveries
- roughly 2%% (2 out of 1,000) of those deliveries
- roughly 1%% (1 out of 1,000) of those deliveries

009 there is no obstetric fistula in the industrialized world because:
- the minimum legal age at marriage is 16 or 18 yr
- there is no early sex and so no early pregnancy with early delivery
- there is good antenatal care
- there is proper obstetric care
- there is no obstructed labor
- there is no cephalopelvic disproportion

010 if the bladder is prolapsing through the fistula it is normally:
- the bladder roof falling down due to gravity
- the bladder body prolapsing
- the bladder base prolapsing
- bladder roof/bladder body/bladder base combined

011 fistula with a circumferential defect type **IIAb** means:
- no connection between bladder and pubic symphysis
- no connection between urethra and pubic symphysis
- no connection between bladder and vagina
- no connection between urethra and vagina
- no connection between bladder and urethra
- no connection between bladder and cervix

012 prolonged obstructed labor may also cause the following:
- amenorrhea
- drop foot
- vagina stenosis
- loss of pubococcygeus muscle
- loss of cervix
- urine dermatitis of vulva
- loss of labia majora
- loss of labia minora
- loss of clitoris

013 obstetric fistula amenorrhea is considered to be:
- physiologic during the first 6 months
- borderline from 7 to 12 months
- pathologic after 1 year

014 one year following the occurrence of the obstetric fistula:
- the majority of patients do not menstruate
- the majority of patients do menstruate

015 the incidence of obstetric fistula amenorrhea after one year is:
- $\geq$ 85%
- 75%
- 50%
- 25%
- $\leq$ 15%

016 foot drop is caused by trauma to the **sensory** fibers of the:
- radial nerve
- sciatic nerve
- peroneal nerve
- ulnar nerve
- optic nerve

017 foot drop is caused by trauma to the **motor** fibers of the:
- radial nerve
- sciatic nerve
- peroneal nerve
- ulnar nerve
- optic nerve

018 in foot drop the following is affected:
- plantiflexion of the foot
- inversion of the foot
- dorsiflexion of the foot
- eversion of the foot

019 in fully developed foot drop the foot is in:
- dorsiflexion_eversion
- dorsiflexion_inversion
- plantiflexion_eversion
- plantiflexion_inversion

020 postpartum foot drop is caused by trauma to:
- the intrapelvic plexus due to pressure of the hard fetal skull
- the sciatic nerve at pelvis outlet due to stretching
- the peroneal nerve at the fibula head due to direct pressure
- the peroneal nerve at ankle level

021 the incidence of foot drop in obstetric fistula immediately post partum is:
- over 80%
- 75%
- 60%
- 40%
- 25%
- less than 20%

022 in grading drop foot according to the **M**edical **R**esearch **C**enter (**MRC**) scale:
- 0 = full function/force and .. 5 = no function whatsoever
- 0 = no function whatsoever and .. 5 = full function/force

023 with time the postpartum drop foot will:
- improve in most patients
- deteriorate in most patients
- stay stationary in most patients
- recover completely in all patients

024 urine (ammonia) dermatitis of the vulva:
- is a sign of the fistula
- should be treated before any repair is undertaken
- disappears spontaneously after a successful repair

025 by treating the urine dermatitis before any repair:
- one treats a symptom and delays the real thing
- one treats the cause and does the right thing
- one shows insight in the problems
- one has not got a single clue of the problems

026 postpartum urine leakage is mostly due to:
- severe stress incontinence
- fistula
- atonic bladder
- outflow obstruction

027 true urine incontinence means incontinence due to:
- stress
- overflow
- obstruction
- fistula
- urge

028 bladder capacity is increased in:
- fistula
- stress incontinence
- urge incontinence
- overflow incontinence due to atonic bladder
- overflow incontinence due to outflow obstruction

029 bladder capacity is decreased in:
- fistula
- stress incontinence
- urge incontinence
- overflow incontinence due to atonic bladder
- overflow incontinence due to outflow obstruction

030 if a patient develops postpartum urine leakage:
- she should be sent home and told to come back after 3 months
- then after 3 months a repair should be undertaken
- a FOLEY catheter should be inserted immediately for 4-6 weeks
- a repair should be done immediately
- the necrotic area should be excised immediately
- wait for slough to develop and then excise it
- few days after this debridement a repair should be done
- a repair should be done if the fistula edge is clean

031 if a patient develops an obstetric fistula:
- antibiotics should always be given
- antibiotics should never be given
- antibiotics should only be given on strict (non-fistula) indication,
  e.g. puerperal sepsis
- high (oral) fluid intake should be started immediately

032 giving antibiotics immediately seems:
- logical because the fistula is caused by infection
- illogical because the fistula is caused by infection
- logical because the fistula is not caused by infection
- illogical because the fistula is not caused by infection
- logical because the fistula is caused by pressure necrosis
- illogical because the fistula is caused by pressure necrosis

033 examination under anesthesia (= **EUA**) as a separate procedure (is):
- a sign that the doctor is highly experienced
- necessary before any repair can be undertaken
- utterly nonsense
- a money-maker for the doctor
- robs the patient of her money
- should be recommended to any doctor dealing with VVF

034 **EUA** should be done always:
- immediately after labor
- 3 months after labor
- at the beginning of any repair
- 3 months after repair
- before permission is given to start sexual intercourse after repair

035 the preferable route for VVF-repair is:
- vaginally
- abdominally
- vaginally and abdominally
- vaginally and abdominally and retroperitoneally

036 in the order stated above in question 35:
- invasion decreases
- invasion increases
- direct access to fistula decreases
- direct access to fistula increases
- operation time decreases
- operation time increases
- chances of postoperative infection decreases
- chances of postoperative infection increases
- operative trauma decreases
- operative trauma increases

037 the preferable route for RVF-repair is:
- vaginally
- abdominally
- vaginally and abdominally
- vaginally and abdominally and retroperitoneally
- colostomy only

038 the preferable anesthesia for VVF/RVF-repair is:
- inhalation anesthesia with endotracheal intubation
- infiltration anesthesia by local anesthetics
- short-acting regional anesthesia: spinal anesthesia by xylocaine
- long-acting regional anesthesia: spinal anesthesia by bupivacaine
- dissociative anesthesia by ketamine

039 the preferable position for VVF/RVF-repair is:
- lithotomy position
- R sided lithotomy position
- L sided lithotomy position
- knee-elbow position
- L sided knee-elbow position
- R sided knee-elbow position
- exaggerated lithotomy position
- R sided exaggerated lithotomy position
- L sided exaggerated lithotomy position
- flat on the operating table

040 the number of "sterile" persons required in vaginal repair are:
- instrumentating operation nurse only
- surgeon only
- surgeon and operation nurse
- surgeon, assistant at R side and operation nurse
- surgeon, assistant at L side and operation nurse
- surgeon, assistant at R side, assistant at L side and operation nurse

041 access to the operation field is obtained by:
- traction by the assistant(s)
- AUVARD speculum
- liberal use of episiotomies
- knee-elbow position

042 normally in VVF-repair the closure is as follows:
- bladder/urethra transversely and anterior vagina wall longitudinally
- bladder/urethra longitudinally and anterior vagina wall transversely
- bladder/urethra and anterior vagina wall **both** transversely
- bladder/urethra and anterior vagina wall **both** longitudinally
- bladder/urethra and anterior vagina wall **both** obliquely

043 yankan gishiri fistula mostly involves:
- bladder base
- bladder neck
- urethra
- bladder roof

044 yankan gishiri is responsible for:
- $\geq$ 40% of all fistulas
- 30%
- 20%
- 15%
- 10%
- $\leq$ 5%

045 yankan gishiri is responsible for:
- ≥ 20% of the obstetric fistulas
- 15%
- 10%
- 5%
- 2%
- ≤ 1%

046 following VVF-repair a FOLEY catheter is inserted because:
- this prevents infection
- this decompresses the bladder
- this allows urine output to be measured
- this is easier for the patient than to urinate herself

047 the FOLEY catheter should stay in for a minimum period of:
- 5 days
- 10 days
- 2 weeks
- 4 weeks
- 6 weeks

048 high (oral) fluid intake is urged since:
- it is nice to drink
- it will speed up healing
- it will prevent ascending infection
- antibiotics will penetrate better into the tissue
- it will prevent blockage of catheter
- it will dilute the urine

049 the minimum amount of (oral) fluids per 24 hours is:
- ≤ 500 ml
- 1,000-1,500 ml
- 2,000-3,000 ml
- 5,000-6,000 ml
- 8,000-9,000 ml
- ≥ 10,000 ml

050 stool pollution of the operation field is dealt with by:
- antibiotics
- meticulous closure of everything
- meticulous closure of bladder/rectum with half-open closure of anterior/ posterior vagina wall
- dilution by large amounts of clean water
- applying disinfectants only
- immediate termination of procedure

051 a longitudinal incision into the anterior vagina wall
- is recommended since all gynecologists use it in elective procedures
- is physiologic
- respects the natural forces in the body
- is surgical malpractice

052 a transverse/semicircular incision into the anterior vagina wall
- is not recommended since gynecologists do not use it
- is physiologic
- respects the natural forces in the body
- is sound surgical practice

053 wide flap-splitting dissection
- necessary; otherwise fistula cannot be closed surgically
- contributes to continence
- unnecessary additional trauma
- is in line with general surgical principles

054 ureter catheterization
- a must in every fistula repair
- only in certain situations
- never
- a must in ureter re-implantation for ureter fistulas type **III**

055 function of ureter catheterization
- promotes dissection
- promotes closure
- promotes healing
- promotes continence
- prevents total ligation of the catheterized ureter
- facilitates identifying iatrogenic intraoperative ureter trauma

056 the real purpose of a suture is
- to promote healing
- to promote continence
- to heal tissue
- to adapt tissue only
- to close a defect meticulously

057 the preferable direction of bladder closure in type **I**
- longitudinal
- transverse
- oblique
- circumferential
- no preference

058 the preferable direction of bladder/urethra closure in type **IIAa**
- longitudinal
- transverse
- oblique
- circumferential
- no preference

059 the preferable dirtection of bladder/urethra cöousre in type **IIAb**
- longitudinal
- transverse
- oblique
- circumferential
- no preference

060 the preferable direction of bladder/urethra closure in type **IIBa**
- longitudinal
- transverse
- oblique
- circumferential
- no preference

061 the preferable direction of bladder/urethra closure in type **IIBb**
- longitudinal
- transverse
- oblique
- circumferential
- no preference

062 the preferable direction of anterior vagina wall closure
- longitudinal
- transverse
- oblique
- circumferential
- no preference

063 closure of the anterior vagina wall
- meticulous closure
- adaptation only
- leaving it completely open

064 grafting by labial fibrofatty pad, pubococcygeus muscle sling etc
- contributes to healing
- contributes to continence
- function doubtful
- non-physiologic procedure with additional trauma

065 critical minimum urethra length for continence
- 0.5 cm
- 1.0 cm
- 1.5 cm
- 2.0 cm
- 2.5 cm
- 3.0 cm
- 3.5 cm
- 4.0 cm

066 pubocervical fascia contributes to urine continence since
- it consists of striated muscle tissue
- stabilizes the cervix in its anatomic position
- stabilizes the anterior urethra in its anatomic position
- stabilizes the anterior bladder in its anatomic position
- stabilizes the posterior urethra in its anatomic position
- it contracts on demand and then compresses the urethra

067 in genuine intrinsic-stress incontinence one finds
- intact pubocervical fascia
- transverse defect in the pubocervical fascia
- median defect in the pubocervical fascia
- lateral defect in the pubocervical fascia
- combined transverse/median/lateral defect in the pubocervical fascia

066 contribution of external sphincter ani muscle to stool continence
- 0%
- 10%
- 50%
- 90%
- 100%

067 contribution of internal sphincter ani (= anorectum) to stool continence
- 0%
- 10%
- 50%
- 90%
- 100%

068 perineal body contributes to stool continence mechanism
- since it consists of connective tissue
- since it contracts and then compresses the anorectum
- stabilizes the vulva in its anatomic position and shape
- stabilizes the anterior anus/anorectum in its anatomic position
- stabilizes the posterior anus/anorectum in its anatomic position

069 repair of fresh sphincter ani rupture
simple so for anybody
needs little experience so for the young resident doctor
needs some experience so for the senior registrar
complicated surgery so only for the expert surgeon
colostomy necessary and as such recommended
just a couple of perineum sutures since perineal tear
concentrate on anorectum
concentrate on sphincter ani muscle
concentrate on perineal body
need for anterior levator ani muscle plasty
need for gracilis muscle graft

070 repair of old (or unsuccessful repair of) sphincter ani rupture
needs some experience so for senior registrar
complicated surgery so only for the expert surgeon
colostomy necssary and as such recommended
need for anterior levator ani muscle plasty
need for gragilis muscle graft

last obstetric fistula surgery
simple so anybody can handle the obstetric fistula
needs some experience so anybody after 2-3 weeks of training
not so simple so doctor needs at least 3 yr of surgical experience
very complicated so for expert surgeons after intensive postgraduate training

questionnaire II

true/false statements
circle the right answer
read it carefully as some of the questions/answers are tricky

the obstetric fistula is caused by pressure necrosis due to prolonged obstructed labor true/false

during obstructed labor the soft tissues (vagina wall and bladder) are being compressed between the hard fetal skull and the hard posterior maternal symphysis true/false

the cause of obstetric fistula is early marriage/pregnancy true/false

the obstetric fistula will disappear if the minimum legal age for marriage of the woman is set at 18 yr true/false

examination under anesthesia as a separate procedure (**EUA**) is utterly nonsense and a money maker for the doctor true/false

lymphogranuloma venereum (**LGV**) is an infection affecting the vulva and can cause VVF true/false

it is possible for small fistulas to heal spontaneously before there is any cross-union between the bladder mucosa and the vagina mucosa true/false

early closure within the first 3 months gives worse results than closure after 3 months true/false

in small fistulas bladder drainage by indwelling FOLEY catheter will heal at least 50% of the patients and is higly recommended true/false

any urine leakage post partum is caused by a fistula true/false

minute fistulas are ideal for surgical trainees to start with true/false

if there is urine (ammonia) dermatitis of the vulva, it should not be treated but a repair performed as soon as possible true/false

fistulas with bladder prolapse are inoperable true/false

colostomy is the solution for RVF true/false

by the time the patient is fixed in the knee-elbow position the operation in the exaggerated lithotomy position is already finished true/false

in fistulas with circumferential defect the knee-elbow or knee-chest position is needed as the whole procedure becomes less complicated true/false

by performing only a colostomy the stool is diverted through to an abnormal opening in the abdomen (and occasionally still through the vagina) which is a tremendous relief to the RVF patient true/false

the grading of drop foot according to the **M**edical **R**esearch **C**enter scale is partially objective by a subjective person true/false

on the **MRC** scale grade 4 means full range of movement but diminished muscle strength true/false

in fully developed postpartum atonic bladder the patient complains of only leaking whilst standing/walking but not whilst lying down true/false

in stress incontinence the bladder capacity is decreased true/false

yankan gishiri is responsible for 12% of all fistulas true/false

yankan gishiri is responsible for 12% of obstetric fistulas true/false

from the patient's point of view and socially the VVF is more embarrassing than the RVF true/false

grafting is better than or equal to reconstruction of functional anatomy true/false

the external sphincter ani is innervated by the pudendal nerve true/false

the internal sphincter ani is innervated by the pudendal nerve true/false

stress incontinence is always associated with intrinsic incontinence true/false

the sling operation is a physiologic solution for postrepair incontinence true/false

the pubococcygeus muscle sling is a physiologic solution for prevention of postrepair incontinence true/false

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Kano State Government for their personnel support

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FIGO for developing the training manual

RCOG for developing the training manual

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