FEDERAL GOVERNMENT OF NIGERIA

Federal Ministry of Health

Department of Family Health

Reproductive Health Division

Standard of Practice on Obstetric Fistula in Nigeria

Doctors' Version

December, 2011

UNFPA

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FistulaCare

FOREWORD

Obstetric Fistula (OF) particularly, Vesico-vaginal Fistula (VVF) is a major public health problem in the developing world. In Nigeria, it is estimated that about 400,000 to 800,000 women are living with the problem and about 20,000 more women develop obstetric fistula every year. Currently, there are twelve dedicated centres offering surgical care to less than 4000 fistula women annually at different levels of expertise. At this rate it will take about 100 years just to deal with the backlog, ignoring new cases. With renewed global attention to the problem of obstetric fistula championed by UNFPA and Fistula Care Project in line with the National Strategic Framework and Plan for VVF Elimination in Nigeria, surgical management and rehabilitation of women with fistula will become central in addressing the obstetric fistula problem.

It is therefore, obvious that there is a need to intensify training of more Surgeons and other health workers that will deal with the backlog and provide care closer to the women silently suffering from obstetric fistula. Besides training, there is also the issue of quality of care and hence the need for a standardized clinical protocol.

The goal of this document is to provide a standard reference material that can be used to train health workers and also guide them in the provision of holistic, respectful, simple, affordable, quality and evidence-based care for obstetric fistula women that will guarantee improved quality of life for these women and their families.

I therefore, approve the use of this document which has been carefully articulated by the VVF Technical Working Group with the hope that it will ensure good quality and uniformity in the care of women with obstetric fistula in Nigeria.

Prof. C. O Onyebuchi Chukwu
Honourable Minister of Health
July, 2012.
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CHAPTER ONE

INTRODUCTION

It is now agreed that obstetric fistula (OF) (popularly known only as VVF) is a major public health problem in the developing world. In Nigeria, it is estimated that between 400, 000 to 800, 000 women are living with the problem and about 20, 000 more women developing it every year. Currently there are about thirteen centres offering surgical care to less than 5000 fistula women per year at different level of expertise. At this rate it will take about 100 years to deal with only the backlog, ignoring new cases. With renewed global attention to the problem of OF championed by UNFPA and in line with the National Strategic Framework and Plan of VVF Eradication in Nigeria, surgical management and rehabilitation of the fistula client will become central in addressing the OF problem.

It is therefore, obvious that there is a need to intensify training of more Surgeons and other health workers that will deal with the backlog and take service nearer to the silent suffering clients. Besides training, there is also the issue of quality of care and hence the need for a standardized clinical protocol.

FMOH in collaboration with UNFPA organized a retreat that brought experts from the different VVF centres and institutions to harmonize practices in the clinical management of the fistula patients. The Standard of Practice that will emerge from this process is desired to provide uniformity in the care of fistula clients in the country and also serve as a guide for collaboration with interested partners in fistula related clinical work in Nigeria.

1.2 GOALS

-The goals of this document are to provide a standard reference material that can be used to train health workers and also guide them in the provision of holistic, respectful, simple, affordable, quality and evidence based care to the fistula clients that will guarantee improved quality of life for them and their families.

-To develop a crop of fistula surgeons and caregivers that will attend to about 60 % of fistula patients nationally at the secondary level of health care.

1.3 PURPOSE AND SPECIFIC OBJECTIVES

The purpose of National Standard of Practice is to provide a document that will serve as a guide for clinical care of fistula patients in Nigeria.

1.3.1 SPECIFIC OBJECTIVES

To capture the views of experts doing VVF work in Nigeria and share the experiences in VVF patient care

To review existing practices at various VVF treatment centres including challenges and lessons learned.

To define and document best practices in the treatment and management of VVF

To develop a Standard of Practice for the surgical management of obstetric fistula in Nigeria.

The intention is to involve key clinical stakeholders in the care and management of obstetric fistula in Nigeria and the relevant bodies in identifying, discussing, agreeing and documenting evidence based best practices in the clinical management of patients. This will guarantee quality service in a manner that is respectful, safe, simple and affordable in the context of a low resource economy.

The topics covered range from overview of obstetric fistula, the magnitude of the problem, the fistula victim to contentious issues in obstetric fistula including definition of competence and appendices. Participants worked in syndicate groups, shared experiences and reached a consensus based on topics in the working paper. Each session of syndicate work was followed by a plenary session during which consensus reached in the groups were harmonized. The harmonized document was then worked upon by a committee to develop the draft document.

CHAPTER TWO

OVERVIEW OF OBSTETRIC FISTULA

2.1 DEFINITION

Obstetric fistula is a form of genital fistula resulting from the process of delivery. It is an abnormal communication between the female genital tract and the lower urinary tract forming the urogenital fistula with consequent leakage of urine through the vagina; and/or the lower gastro-intestinal tract forming the faecal genital fistula which allows leakage of faeces through the vagina. The commonest of the fistulas is the vesico-vaginal fistula (VVF)

2.2 HISTORICAL BACKGROUND

The history of obstetric fistula is as old as mankind and for as long as deliveries and obstructed labour have occurred. Obstetric fistula was described in an Egyptian Mummy from a royal family as far back as 2000 BC. Before the 17th Century, VVF was considered irreparable and attention was devoted only to devising receptacles for collecting urine. It was not until 1666 that Hendrick Van Roonhuyse first described VVF repair.

In 1839, George Hayward from Boston introduced a major technical breakthrough in VVF repair when he described the separation of the bladder from the vagina, the present day flap splitting dissection.
In 1852, James Marion Sims (considered the father of fistula repair) published an article on the treatment of VVF and in 1860, went ahead to establish the first VVF hospital in New York.

In 1881 the transvesical approach was described by Trendenlenbugh while in 1882 Pawlik recommended ureteric catheterization during fistula repair.

The German Surgeon Von Dittel described the transabdominal approach to VVF repair in 1893 and in 1928 Martius described the use of labial fat graft in VVF repair.

The second fistula hospital was set up in Addis Ababa, Ethiopia in 1972 by Hamslins.
In Nigeria, Majekodumi (Lagos) and Lawson (Ibadan) in the 60s did some work on VVF. Lawson worked on over 350 patients while Una Lister worked extensively on VVF patients in Northern Nigeria (Zaria and Maiduguri). Dr. Ann Ward of the Medical Missionaries of Mary in Akwa Ibom state started work on VVF in the early 50s and championed extensive work on VVF in Southern Nigeria, while Dr. Kees Waaldijk in 1984, started the National VVF Repair Project which eventually extended to several centres in Nigeria.

In Nigeria, all these works had been in the clinical setting and remained so until the early 90s when the National Council of Women Societies (NCWS) Task Force on VVF under the leadership of Dr. Amina Sambo looked at the multi-dimensional factors

associated with VVF. This Task Force later metamorphosed to what is now the National Foundation on VVF (NFVVF). The NCWS and the NFVVF spear-headed strategies to address the many factors associated with VVF and the plight of women living with urinary incontinence (VVF). The Task Force on VVF won the support of the Federal Government and subsequently, training of health workers in VVF work (training of surgeons and nurses) in the 90s and early 2000s.

United Nations Population Fund (UNFPA) in 2003 championed the global end fistula campaign and facilitated the development of the National Strategic Framework and Plan for eradication of VVF in Nigeria by the Federal Government. In addition, the first ever fistula fortnight was conducted in 2005.

2.3 MAGNITUDE OF THE PROBLEM

Obstetric fistula became a rarity in the developed world since the development of standard obstetric, care. However, the same cannot be said for the developing countries like Nigeria. Presently, it is estimated that there are 400,000 to 800, 000 women living with obstetric fistula in Nigeria, with an estimated 20,000 new cases annually.

Because of the problem of access to quality obstetric care in terms of ignorance, finance, logistic, infrastructure, cultural preferences, and late decision to seek care, the condition has remained a great challenge in Nigeria.

The activities of TBAs, quacks and some religious beliefs have further compounded the problem. The recent National Demographic and Health Survey (NDHS) report showed that the problem of urinary incontinence as a result of VVF is wide spread in Nigeria

2.4 PROFILE OF THE OBSTETRIC FISTULA CLIENT

Generally, the obstetric fistula patient is often poor, uneducated, unhappy and abandoned. The disease takes away their dignity and is often associated with great psychological burden. Other associated problems may include infertility, menstrual disturbance, dyspareunia / apareunia,, difficulty in walking etc; with some often resorting to begging and cheap prostitution for livelihood.

In Northern Nigeria, 70% of the patients are below the age of 20 years when they develop fistula, while in the South, older women are affected.

Generally, victims often end up as destitute if the incontinence is not relieved.. They are socially, mentally, emotionally and sometimes physically challenged. The condition is also associated with a high foetal wastage rate of about 96%, leaving victims in a profound state of despair from childlessness, incontinence and abandonment.

2.5 THE SCOPE OF NATIONAL STRATEGIC FRAMEWORK FOR ELIMINATION OF OBSTETRIC FISTULA

The fistula surgeon and trainees should be familiar with the content of the National Strategic Framework for the elimination of VVF in Nigeria developed by the Federal Ministry of Health.

2.6 PUBLIC HEALTH VIEW OF OBSTETRIC FISTULA

In Nigeria, Obstetric Fistula is a major public health concern which requires specialized units and personnel in treatment and prevention. Public Health Strategy should include creating awareness among patients on their rights to adequate obstetric care and addressing issues of access to care like:

- Improving various modalities that can facilitate access to care for pregnant women
- Provision of functional health care facilities where emergency obstetric care can be accessed
- Development of road network and emphasis on girl and boy child education as important tools for the prevention of obstetric fistula
- Community micro financing of health to help support health care in the community.

Maternal health advocates should be formed to support the activities of the TBAs and encourage adequate and appropriate maternal health in the community.

It is the collective responsibility of the Government at all levels, Civil Society, NGOs and communities to ensure that obstetric fistula is eradicated from Nigeria using a multi-faceted approach.

CHAPTER THREE

PATHOLOGY OF OBSTETRIC FISTULA

3.1 BASIC SCIENCES RELATED TO OBSTETRIC FISTULA

It is important to be conversant with the anatomy of the female pelvis with particular emphasis on the bony pelvis and the various types that exist such as gynaecoid, android, anthropoid and platypeloid and their relevance to childbirth. Similarly, the anatomy of the intrapelvic structures including their vasculature and innervations and of the perineum should also be known. One must also be familiar with the basic physiology of micturition (urination), defaecation, continence mechanism of stool and urine in the female as well as the physiology of menstruation.

3.2 CAUSES OF OBSTETRIC FISTULA

3.2.1 Direct causes

i. Prolonged obstructed labour
ii. Instrumental vaginal delivery like use of obstetric forceps and destructive operations on the dead foetus in the uterus.
iii. Injury to the bladder and/or ureters during Caesarean section and other abdominal operative procedures.
iv. Harmful traditional practices like 'yankan gishiri', insertion of caustic salt and paste, etc
v. Gynaecological surgeries
vi. Other factors such as genital infections, radiotherapy, coital injuries, etc.

3.2.1 Indirect causes

i. Poverty
ii. Illiteracy and ignorance
iii. Poor infrastructure
iv. Poor obstetric care.
v. Industrial strike
vi. Cultural or religious beliefs and practices
vii. Malnutrition, particularly in children.

3.3 PATHOLOGY AND PATHOPHYSIOLOGY

Following prolonged obstructed labour, pressure by the foetal presenting part on the vagina, bladder/urethra, rectum and pelvic nerves, in between, against the bony pelvis results in necrosis of the soft tissue involved causing VVF, RVF and obstetric palsy.

3.4. CLASSIFICATION

3.4.1 Urogenital fistula

I. The anatomical position of the fistula could be described as:-
Juxta-urethral
Juxta-cervical
Mid-vaginal
Combined
Vault

II. The size of the fistula could be described as:-
Small < 2 cm in diameter
Medium 2 – 3cm
Large 4 – 5cm
Extensive ≥ 6 cm in diameter

III. Urethral or involvement of the continence mechanism (physiological outcome: Kees Classification 1989)
   i. Not involving the continence mechanism
   ii. Involving the continence mechanism

A. Without involvement of the urethra
   a) Without circumferential defect
   b) With circumferential defect

B. With involvement of urethra
   a) Without circumferential defect
   b) With circumferential defect

iii. Miscellaneous

3.4.2 Faeco-genital fistulas (Recto-vaginal Fistulas (RVF)

I. Anatomical position of the fistula could be described as:
   i. Upper RVF
   ii. Lower RVF

Demarcation is the puborectalis muscle.

II. Size of the fistula could be described as:
   i. Small < 2 cm in diameter
   ii. Medium 2 – 3cm
   iii. Large 4 – 5cm
   iv. Extensive ≥ 6 cm in diameter

III. Involvement of the anal sphincter
Any of the rectovaginal fistulas with involvement of the anal sphincter

3.4.3 Classification based on ease of Repair and Outcome

Female genital fistula can also be classified based on the ease of repair and the anticipated outcome into simple (easy to repair and good prognosis) and complex/difficult (complicated and uncertain prognosis) fistulas.

Criteria based on the degree of anticipated ease of the repair (WHO Criteria)

Defining criteria	Simple	Complex
Number of fistula	single	multiple
Site	mid vaginal VVF	recto-vaginal (RVF) mixed VVF/RVF involvement of cervix
Size	<4cm	>4cm
Involvement of the urethra / continence mechanism	absent	present

Scarring of vaginal tissue	absent	present
Presence of Circumferential defect*	absent	present
Degree of tissue loss	minimal	extensive
Ureter/bladder Involvement	ureters are inside the bladder, not draining into the vagina	ureters are draining into the vagina, bladder may have stones
Number of attempts at repair	no previous attempt	failed previous attempts at repair

** The complete separation of the urethra from the bladder.*

[1]Adopted from Obstetric Fistula: Guiding principles for clinical management and programme development (World Health Organization 2006)

3.5 PREVENTION OF OBSTETRIC FISTULA (OF)

Prevention of OF falls into four components based on the principles of safe motherhood:

3.5.1 Primary-prevention

This is based on principles of health promotion and education:

- Childhood and women nutrition
- Formal education particularly for the girl child and women
- Planning for all pregnancies by use of appropriate contraceptive(s)
- Delaying the age of first pregnancy
- Birth spacing and easy access to family planning information and services
- Overcoming cultural barriers that subjugate women

3.5.2 Secondary prevention

- Functional prenatal care
- Birth preparedness and facility readiness
- Knowledge and identification of possible problems during pregnancy and childbirth
- Skilled professional attendance at birth
- Easy access to basic and comprehensive emergency obstetric care
- Consistent use of partograph for correct monitoring of labour
- Easy and quick means of referral when problems arise in labour

3.5.3 Tertiary prevention

These are designed to identify and prevent the development of fistula in labour or in recently delivered women who are at risk.

- Monitoring every labour by use of a partograph
- Use of indwelling Foley's catheter for 7 to 14 days or longer for

women who had obstructed labour.

- Immediate use of Foley's catheter for all women who developed fistula after obstructed labour or surgery.
- Knowledge and identification of symptoms and signs of fistula
- Quick and easy access to centres with capability for fistula treatment
- Identification and reaching out to women with fistula and mobilizing them for treatment

3.5.4 Community involvement and Advocacy

Women living with fistula very often suffer stigmatization and discrimination and sometimes become social outcasts.

- Empowering women, men and communities towards safe motherhood
- Advocacy for free or subsidized ANC and obstetric care
- Information on availability of fistula treatment services
- Advocacy at all levels of government and leadership on the problems of unsafe motherhood, including fistula
- Promotion of fistula awareness, prevention and treatment.
- Development and implementation of local, state and national action plans on eradication of obstetric fistula.
- Human Rights and legislations: To protect the fundamental human right of women (right to life, education, health and self determination)

CHAPTER FOUR

PRE-OPERATIVE CARE OF PATIENTS WITH OBSTETRIC FISTULA

4.1 DIAGNOSIS OF OBSTETRIC FISTULA (MEDICAL AND SOCIAL EVALUATION)

4.1.1 History

A detailed history must be taken which includes:

i. Bio data

This should include; name, age, parity, last child birth, address, telephone number, if any, Local Government Area/ State of origin, religion, ethnic group, marital status, age at marriage, educational status/occupation including the husband's educational status and occupation; age at menarche, date of last menstrual period.

ii. Presenting complaint and duration of the problem

iii. History of presenting complaint [should include labour events preceding the fistula], duration of labour and where it occurred.

- Mode of delivery.
- How soon after delivery did the leakage start?
- Fetal outcome.
- If there was delay in accessing health care, enquire for reasons for the delay.
- Is the patient capable of voiding per urethra in spite of the leakage?
- Other associated morbidities such as recto-vaginal fistula, gait abnormality, amenorrhoea, pain or difficulty with intercourse or absence of sexual activity.
- Any treatment so far: orthodox and unorthodox or both.
- What has been the source of support since the illness and is there any associated marital disharmony as a result of the ailment?

4.1.2 Physical Examination

General examination to include: height, weight, gait, foot drop, pallor, jaundice, pedal oedema, lymphadenopathy, decubitus ulcer.

Cardiovascular system- Pulse rate, blood pressure, and heart sounds

Respiratory System - Respiratory rate; listen to the chest for abnormal breath sounds.

The abdomen - Scar, tenderness, masses

Vaginal examination: Follow the principle of inspection and palpation. Start with the patient in dorsal position and then the left lateral position during examination with the speculum.

Inspection of the vagina involves both direct visualization and the use of the speculum:- confirm true urinary

incontinence and exclude it from stress incontinence and other forms of urinary incontinence.

Note the presence of 3rd degree perineal laceration or RVF; dermatitis, scars and pelvic organ prolapse (cystocele, rectocele, enterocele, utero-vaginal prolapse)

Digital examination should also be done in this position to determine the degree of gynaetresia and to choose the appropriate sized Sims speculum. During digital examination, note the size, number, site of fistula and degree of scarring or fibrosis.
At examination with the speculum: The site, size and number of fistula should be noted.

If a fistula is not obviously demonstrable at this stage, it may be likely that a urethro-vaginal fistula or stress incontinence, a minute VVF or even a vesico-cervical fistula may be present. Three swab test may be necessary to facilitate diagnosis.

Neurological examination (using MRC Scale) is necessary especially when there is foot drop or a fresh fistula. Anal reflex and musculo-skeletal system should also be examined.

Investigations necessary should include:- Haemoglobin estimation, Blood group and test for human immune-deficiency virus, pipette specimen of urine for urinalysis (sugar and protein).

Specific investigations such as upper urinary tract sonography, urinary tract contrast study (intravenous urography) and cystoscopy may be indicated in certain cases.

Examination under Anaesthesia (EUA):- Considering the cost and the risk of EUA, it is suggested that examination without anaesthesia in the lithotomy position be considered. When EUA is thought necessary, consider referral.

Indications for Surgery: As soon as the fistula is clean and inflammatory processes have abated and there are no other concurrent medical morbidities, surgical repair can be done. There should be a nutritional evaluation of the patient on presentation and strategies to building up the patient nutritionally before surgery.

4.2 PRE-OPERATIVE CARE

Patient and family should be appropriately counseled about:

1. Condition
2. Nature of treatment
3. Possible complications from surgery and anaesthesia
4. Obtaining informed consent

4.2.1 Clerking

Every OF patient should undergo normal pre-operative admission procedure which will include repeat clerking, physical examination and laboratory investigations if the preceding evaluation was more than two weeks.

4.2.2 Preoperative Antibiotic(s)

This may not be indicated as routine for OF patients.

Bowel preparation: The patient's last meal should be before 10.00pm (8 hours before surgery) on the night preceding surgery and enema early in the morning of the surgery.

For patients with RVF, bowel preparation should commence at least three days before surgery in the form of liquid diet and may include gut sterilization with oral antibiotics.

Body Preparation: Early morning bath on the day of the surgery.

Movement to the theatre: Patient should be conveyed to the theatre on a trolley or wheel chair but returned to the ward after surgery on a trolley.

4.2.3 Patient with HIV/AIDS

It is not uncommon to find women with fistula testing positive for HIV. Therefore, all fistula patients should be offered HIV screening, as this may be their only opportunity for accessing the service. In screening patients for HIV, follow the standard procedure of HIV counseling and testing. Those found positive should be offered the appropriate care. No fistula patient should be denied surgery or care for reason of their status unless they are not physically fit for the procedure.

4.3 PHYSIOTHERAPY

Situations that may require physical therapy include foot drop from obstetric palsy (injury to the nerves of the sacral plexus), overflow incontinence from urinary retention due to atonic bladder, faecal incontinence from weak anal sphincter etc. For these reasons it is advised that a physiotherapist be part of the obstetric fistula treatment team.

Basic processes for the physical therapy of some of these conditions include:

Foot drop: Encourage early ambulation and physiotherapy. Show patient how to dorsiflex foot passively and at intervals.

Atonic Bladder: Should be catheterized and drained for at least 2 weeks followed by bladder training: (a) Spigotting (b) frequent micturition.

Cholinergic drugs can be used.

Weak Anal Sphincter: Do pelvic floor muscle exercise. Teach patient how this is done.

Unstable Bladder: Make efforts to determine the cause of the irritable bladder such as stone, urinary tract infections, very small bladder. In intractable cases refer for urodynamic studies.

CHAPTER FIVE

SURGICAL TREATMENT OF PATIENT WITH OBSTETRIC FISTULA

5.1 ANAESTHESIA

At least a nurse anaesthetist is required to be present during anaesthesia. However, the surgeon should be familiar with the procedures of administering spinal anaesthesia.

In situations where the surgeon administered the spinal anaesthesia, the Nurse anaesthetist must be present to monitor the patient during surgery and immediate post operative period.

The anaesthetist should regularly monitor the vital sign intra-operatively and record such in an anaesthetic chart.

Preoperative review of the patient on admission should include anaesthetic counseling.

Preload patient with 1 – 2 litres of intravenous fluid (preferably Ringer's lactate solution or normal saline) before the spinal anaesthesia. Take the vital signs and document before anaesthesia and at regular intervals

Drugs that should be available in the theatre to include;

- Bupivacaine 0.5% (Heavy Marcaine)
- Lignocaine
- Pentazocine
- Promethazine
- Atropine
- Hydrocortisone
- Adrenaline
- Ephedrine
- Ketamine
- Intravenous fluid (Ringer's lactate, Normal saline, 5% dextrose in water)

5.1.1 Types of Anaesthesia

In most cases, spinal anaesthesia is recommended but in some instances dissociative anaesthesia with Ketamine or general anaesthesia may be indicated.

The following minimum anaesthetic equipment are required:-

- Ambu bag and or bag-valve mask
- Oxygen
- Cuffed endotracheal tubes
- Laryngoscopes with good batteries
- Intravenous infusion and blood giving sets
- Intravenous cannulas (preferably sizes 18G to 14G)
- Syringes and Needles (Syringes sizes 2mls, 5mls, 10mls and 20mls)

Post-operative Anaesthetic Recovery Care: Patient should be observed for 15 to 30 minutes in the recovery room after surgery. During this time, check vital signs

and patient's level of consciousness regularly.

Possible complications of spinal anaesthesia:-

1. Headache and vomiting
2. Backache
3. Hypotension and total spinal shock
4. Spinal anaesthesia wearing off before the end of surgery.

Prevention: Use fine spinal needles –23G or 22G and heavy marcaine at spinal position L3 to L5.

Keep the patient's head elevated with pillow for at least 20 minutes after the spinal anaesthesia to prevent total spinal anaesthesia. The dose of spinal anaesthesia administered should be relative to the weight of the patient.

Failed Spinal Anaesthesia: Do not repeat the spinal anaesthesia soon after the initial dose has failed. Use alternative technique of anaesthesia for safety.

A patient who is given sufficient intravenous fluid at the preloading stage is unlike to develop hypotension. However, if the patient develops hypotension or shock, give normal saline fast to elevate the blood pressure and thereafter, maintain the blood pressure with the same fluid. If available, administer ephedrine intravenously.

For a patient who is vomiting during anaesthesia, give promethazine and turn the head of the patient sideways.

5.2 OPERATIVE TECHNIQUES

5.2.1 Route of repairs

- Vaginal approach is preferred for repair of most cases in Nigeria.
- Consider abdominal approach and working through the bladder for fistula that is not accessible by the vaginal route like vesico-cervical (or uterine) fistula.
- Abdominal approach is also the preferred route for treatment of ureteric fistula. Very experienced surgeons can re-implant the ureter into the bladder via the vaginal route.
- The surgeon should chose the route that he/she is most comfortable with and one that is within his/her competence

5.2.2 Positioning of the Patient

The aim of positioning in fistula surgery is to maximize exposure.

(I) For vaginal routes repairs, place the patient in lithotomy position (patient lying on her back with the legs and feet hanging on stirrups) with the head of the table tilted downward to about 25o – 30o. The use of shoulder support pad helps prevent patient slipping down headlong. When there are no shoulder support pads, the anaesthetist guides the level of head tilt. The exposure gets better when the buttocks are placed beyond the table and legs

abducted.

(ii) For abdominal approach, the patient is placed in supine position and often with head tilt to help displacement of the bowel away from the pelvis and ease packing of the bowel with abdominal packs.

(iii) All patients should have a screen that shields them from seeing what is happening below their chest.

5.2.3 Position of the surgical team and placement of instrument

For a right handed surgeon the scrub nurse stays on the right side and vice versa

The assistant surgeon stays opposite the scrub nurse. When there is need for a second assistant surgeon, s/he stands cephalad to the scrub nurse.

5.2.4 Final evaluation

With the patient under anaesthesia and appropriately positioned, repeat vaginal examination to determine classification and level of competence. During this examination under anaesthesia, note the position, size and number of fistula (s); the associated degree of fibrosis and presence of rectal fistula. Sound the bladder for the presence of bladder stone(s)

Measure the distance from external urethral opening to the fistula. Specifically look for circumferential defect (that is urethra or bladder detached from each other) and the fistula hidden in the corner behind the pubic bone as well as the ureteric orifices. When there is circumferential defect, ascertain the patency of the distal piece of the urethra and extent of proximal urethral loss. The ureteric orifices must be localized, especially in fistula near the cervix and/or large ones. All efforts and perseverance to locate the ureteric orifices are worthy investment.

After the examination, decide on your level of competence before scrubbing. If the fistula is beyond your competence, refer.

5.2.5 Scrubbing Procedure for Operating Team

Notwithstanding the vaginal area for the surgery, fistula surgery is a sterile procedure and must be treated as such. Standard scrubbing procedure with use of adequate water and soap including povidone iodine scrub (if available) should be adhered to by the anaesthetist for administration of the spinal anaesthesia, the scrub nurse, the surgeon and the assistant surgeon. The surgeon, scrub nurse and assistant surgeon(s) must wear the appropriate operating gown with cap, mask and gloves. It is advisable to double-glove for surgery. The anaesthetist must wear only theatre gown with cap, mask and gloves.

5.2.6 Field Preparation

Standard/Routine cleansing and draping should be done. Shave the perineum and clean the operative area with 1.0% aqueous solution of chlohexidine in cetrimide solution three times starting from inside the vagina and moving outwards. Clean the perineum up to the

level of the umbilicus and down to the medial aspect of the mid thigh and dry with a dry swab. Systematically drape the operating field. Straight drapes are better than leggings and a drape with hole. Get adequate towel clips to hold the draping securely.

5.2.7 Improving access and lighting

Working in the vagina to fix an obstetric fistula poses the challenge of working in a hole. Adequate exposure is required. One can achieve this by:-

- Proper patient positioning
- Use of stay sutures of non absorbable materials like silk to hold the labia apart.
- Episiotomies to increase the introital opening if required. When episiotomy is used, it should follow skin creases.
- Placement of weighted vaginal speculum. Place a piece of gauze over the posterior commissure with part of it in the vagina and another part covering the anus for the weighted vaginal speculum to rest on it.
- Adequate illumination (with a head lamp-loop, if available) can provide additional advantage. It is also wise to position the operating table in the theatre in such a manner that natural sunlight can light up the operating field in case of power outage.

5.2.8 Dissection and Tissue Mobilization

Infiltrate round the fistula with 1:100, 000 aqueous solution of adrenaline to help with haemostasis and raise the tissue planes. Before the use of adrenaline, make sure the patient is not hypertensive. Where the patient is hypertensive, use plain normal saline to infiltrate the tissue and define the tissue plain for ease of dissection.

Catheterize the ureters with size 4 – 6 Fr ureteric stents where the orifices are localized. Incise around the margin of the fistula with bilateral extensions starting with the point most accessible (usually the lower margin). A midline vertical extension of the upper margin incision in such a manner that gives a three flap piece of the vaginal mucosa at dissection makes it easier. Dissect as needed to close the bladder without tension. The use of appropriate instruments facilitates the process. Whether the ureters were visualised or not, avoid accidental injury to the structure. Secure haemostasis by use of haemostatic clamps or direct pressure. Areas of attention for excessive bleeding include the lateral sides of the urethra, the base of the bladder, lateral side of the uterus and the lateral walls of the vagina.

5.2.9 Closing the Fistula

This involves closing the bladder and later the vaginal skin. Each stitch should be purposefully placed. Bladder closure should be with inverting sutures using 1 or more layers of vicryl 2/0 or

2/0 extra chromic catgut with 3/5 curved needle (the UR6 circle needle). Other needle types are also available and the surgeon can choose his/her preference. Bladder repair is preferably done in transverse fashion or follow the pattern that will minimize tension at the suture line. The stitches can be placed either interrupted or continuous, but interrupted style and avoiding strangulating the tissue is safer.

After closure of bladder – test repair with methylene blue (test of repair). Then close the vaginal mucosa again in interrupted fashion, everting the edges of the mucosa and using vicryl 0 suture materials.

Repair the episiotomy with vicryl 2/0 or 0, usually the vaginal mucosa with continuous suturing and the perineal skin with continuous or interrupted suturing. Do not approximate the perineal muscles if that will reduce the capacity of the vagina.

5.2.10 Bladder Drainage/Catheters

This is a critical part of surgical management of patient with obstetric fistula. Use size 18 self retaining Foley's catheter to drain the bladder continuously for a minimum of 14 days (2 weeks). Use 10mls of fluid to blow the balloon of the Foley's catheter. Strap the catheter securely over the less dominant thigh and if there was repair that involved the urethra, use a stitch around the urethral orifice or the labium to anchor the catheter.

5.2.11 Recto-Vaginal Fistula (RVF)

This occurs in about 15% of all fistulas encountered and occurs more frequently in combination with urinary fistula than solitary rectal fistula. The solitary rectal fistula are seen more in 3o perineal tear and extended episiotomies that was not repaired well or broke down after repair.

Column of faeces and flatus make RVF repair failure rate slightly higher than urinary fistula of equal status. Circumferential defect and/or anal sphincter damage make repair challenging and outcome less favourable.

Classification of RVF is already stated above. Surgical repair of RVF is done in double layer. If the anal sphincter is damaged or the fistula is way down with only a bridge of anal skin over the lower edge of the fistula, convert the fistula into a 3o perineal tear, dissect by raising a flap, close the anorectum with adaptation of the internal sphincter followed by reconstruction of the external anal sphincter and then repair of the perineal body. In many situations, diverting colostomy is not required.

5.2.12 Vaginal Packing

At the end of the surgery, wash the vagina with sterile saline or mop dry and pack it with single or knotted pieces of gauze to close the dead space between the bladder and vagina. This will also create pressure to achieve haemostasis. Where there are raw surfaces in the vagina, the packing can be done with the gauze ribbon soaked in acriflevine or sufratule vaseline.

No dressing is required except at the donor sites where grafting was employed. Remove the packing on the morning of the second postoperative day, doing so gently to avoid haemorrhage.

5.2.13 Patient Transfer to the Ward

Ensure that the patient is cleaned well of blood, faeces, mucus and sometimes vomitus before moving her to the ward. Use patient trolley to move her back to the ward.

5.3 PERI-OPERATIVE CARE

The operating room for fistula surgeries should have:

(1) A scrubbing area with adequate water source
(2) A gynaecological pneumonatic operating table with stirrups
(3) A light source with a head loop if available
(4) Provision for shoulder support to allow for tilting the head down during surgery without risking the patient slipping backwards
(5). Standard operating outfit and towels/drapes/leggings

Operating Instruments

-1. Sims Speculum double ended medium
-2. Sims Speculum double ended large
-3. Langenbeck retractor modified 3.5cm x 1.5cm 1
-4. Auvards weighted speculum large
-5. Lawrence needle holder light weight
-6. Mayo Hegar needle holder Tungsten carbide
-7. Mayo Hegar needle holder Tungsten carbide
-8. Kelly artery forceps straight (16cm)
-9. Mosquito artery forceps straight (12.5cm)
-10. Mosquito artery forceps curved (12.5cm)
-11. Grille artery forceps straight (16cm)
-12. Female metal catheter FG 12 3 Gauge 1
-13. Female metal catheter FG 16 3 Gauge 1
-14. Mayo chambered scissors straight (16.5cm)
-15. Kocher artery forceps straight (20cm)
-16. Kocher artery forceps straight (18cm)
-17. Littlewoods Tissue forceps (18.5cm)
-18. Judd Allis Tissue forceps (19.5cm) 3 to 4
-19. Silver Probe with eye (15cm)
-20. Silver Probe with eye (12.5cm)
-21. McIndoes dissecting forceps (15cm)
-22. McIndoes dissecting forceps toothed 1:2 (15cm)
-23. McIndoes Scissors curved (18cm)
-24. Byd scissors semi sharp (18cm)(slight double curve)
-25. Kelly artery forceps (curved) (16cm)

Provision for Secretariat Work and Data Collection:-

There should be a standard operation register where the patient's name, age, hospital number, type of OF, type of anaesthesia, the surgeon, assistant/scrub nurse and anaesthetist names, and the date of the surgery are entered.

Give patient a hand card at the end of the surgery (or at discharge) detailing the date and type of the operation done. Encourage patient to present the hand card at any health facility that she goes for pregnancy care or labour at subsequent pregnancies.

CHAPTER SIX

POST-OPERATIVE CARE OF PATIENT WITH OBSTETRIC FISTULA

6.1 POST OPERATIVE CARE

6.1.1 Immediate Care (First 24 hours)

Observe the patient in recovery room for about 30 minutes, monitoring vital sign: breathing, blood pressure, pulse and level of consciousness every 5 minute.

When her condition is stable and satisfactory, move her to the ward.

Check vital signs 1/2 hourly for 4 hours and there after 2 hourly for 4 hours and then 4 hourly for next 16 hours. Patient should be reviewed by the surgeon within the first 4-6 hours of surgery.

6.1.2 Postoperative Care during Stable State

i. Usually patient will return to the ward with intravenous fluid (IVF) infusion running and that unit may be the last IVF that the patient may have. Thereafter, give liberal fluid orally, 6 – 8 litres/day, aiming that urine produced is as clear as water.

   Where patient cannot tolerate oral fluids because of vomiting during the first 24 hours, give IVF (4 litres), 5% dextrose solution in water to alternate with Normal Saline.

   Monitor the serum electrolytes where facilities are available.

ii. Monitor urine output hourly. The urine should be clear as water. Not less than 3000 mls may be produced in 24 hours if the patient drinks enough water as stated above. Give clear instructions on what to be done when the urine output and appearance is below expectation.

iii. **Catheter care:** This is critical and very important.

- Usually size 16 or 18 Fr Foley's catheter is used. The bigger size is better to allow free urine drainage.
- The catheter can be anchored by a stitch or held in place with adhesive strap.
- Check catheter drainage and if it is blocked flush it or change it.
- Make sure the patient does not lie on the catheter or get it kinked. When it is blocked, irrigate it with normal saline solution using bladder syringe. Adequate intake of fluid (water) not less than six litres per day keeps the urine clear and cleanses the catheter. Less intake of water produces sludge and can get the catheter blocked.
- If urine is cloudy, exclude urinary tract infection. Do urine microscopy and bacteriology

where facilities are available or treat empirically with co-trimozaxole or nitrofurantoin and increase the fluid intake.

iv. Give adequate analgesia. A non steroidal anti-inflammatory drug like piroxicam, diclofenac or ibuprofen can be used.
v. Check patient's bed regularly for vaginal bleeding or wetting.
vi. Allow regular diet as tolerated by the patient. Where it is a rectal fistula repair, allow low residue diet like pap or rice and stew (not meat) only over five days. Liquid paraffin 15mls daily can soften the stool if there is constipation.
vii. Allow ambulation after the first 24 hours of surgery. Patient can carry the urine bag around.
viii. Drugs: No routine drugs except where clinically indicated. Adequate and liberal oral water intake and good nutrition is critical and should be encouraged. Give haematinics like ferrous sulphate, folic acid, vitamin B complex and vitamin C. If patient is still wet, use barrier creams (Vaseline) to avoid dermatitis. Routine use of antibiotics is not recommended.
ix. Encourage usual perineal and vaginal hygiene but do not allow deep vaginal douching.
x. Daily bathing; encourage personal hygiene.
xi. Remove Foley's catheter on post-operative day 14. Encourage copious oral fluid intake even after the catheter is removed. If patient is still leaking after 2 weeks, leave the catheter in situ for another 2 weeks to a maximum of 6 weeks.
xii. Do a dye test before discharging the patient home.

6.2 DISCHARGE PROCEDURE

Counseling: Pre-discharge counseling of patient should involve the husband and other family members where available. Instructions should be on:

- The presumed cause of the fistula
- Avoiding coital activity for 6 months
- When to return for follow – up care: at 4 weeks and 12 weeks. Give specific dates
- Going to the hospital (not primary health clinic) for antenatal care for all subsequent pregnancies. On arrival, patient should show her post-operative hand card and insist on seeing a doctor to plan her delivery.
- All subsequent deliveries after fistula repair must be by caesarean section.
- Manual work may resume after eight weeks.
- Importance of good nutrition to the family, particularly children
- Advising other women in the neighbourhood of the importance of labour and delivery in a health facility instead of at home.

Give these instructions in simple and clear terms. If the patient cannot understand them all at one session, give the instructions in bits as the patient comes for follow up.

It is important to have the husbands around during the time of instructions for those who are still in cordial marriage relationship.

6.3 FOLLOW-UP VISITS:

At each follow-up visit, enquire about leakage of urine, date of last menstrual period if she has resumed menstruation, coital activity and about any other complaint. If the visit is not as planned, enquire for reason for the default.

Examine patient for leakage, anaemia, gait, abdominal tenderness and swelling. Note presence or use of rags. Examine the perineum, the vagina including a dye test if still leaking.

Encourage the patient, give instruction about diet, coital activity, antenatal care and need for hospital delivery. Give her haematinics and multivitamin supplements and the date for the next visit.

6.4 COMPLICATIONS OF SURGICAL TREATMENT OF OBSTETRICS FISTULA (Prevention, identification and management).

6.4.1 Intra-operative

I. Bleeding: This can be minimized by infiltrating the tissue around the fistula with adrenaline 1:100,000 solution for non hypertensive patient, using haemostatic clamps, pressure application and ligatures. Electrical diathermy can make things easy when available.

ii. Ureteric Injury: - If inadvertently the ureters are injured, identify the ureteric orifice and catheterize where possible and if not call for help where available, attempt repair or refer. To prevent ureteric injury – make every effort to identify and catheterize with ureteric catheter leaving the metal stylet in place during dissection and repair in order to avoid injury to the ureter. Remove the ureteric catheter if during the course of the repair the ureteric orifices moved further into the bladder away for the repair line. However, if the ureter(s) were at the edge and mobilized into the bladder, retain the catheter without the metal stylet for 10 days, connecting it to a separate urine bag.

iii. Vomiting:- Identify the cause such as hypotension from spinal anaesthesia, exaggerated lithotomy position etc. and treat with antiemetics drug like promethazine and intravenous normal saline or Ringer's lactate fluid infusion where indicated. Spinal anaesthesia, because the patient is conscious, is protective against aspiration of the vomitus. If general anaesthesia is used, make efforts to prevent aspiration of the vomitus by the patient.

To prevent vomiting in the ward after surgery, patient should start water intake and regular diet gradually.

iv. Shock: Resuscitate with intravenous fluids and give blood where indicated. Give oxygen and keep patient warm. Look for cause and treat.

v. Pain: This occurs when the spinal anaesthesia is wearing off. Supplement analgesia with pentazocine or consider alternative anaesthesia with ketamine and sedation.

6.4.2 Delayed Complications

i. Patient not making urine: - If after the surgery and the patient is not making urine, identify the cause such as kinked or blocked catheter, shock due to dehydration, bilateral ureteric ligation, and treat appropriately. If anuric within the first 24 hours and the cause is suspected to be bilateral ureteric ligation, take the patient back to the theatre and undo and redo the repair. Anuria due to bilateral ureteric ligation can be fatal if not corrected.

ii. Fever: Do a full workup to determine cause of fever like malaria, sepsis and dehydration. Ward window/bed nets will prevent mosquito bites.

iii. Headache: Consider spinal headache – lay patient flat, give analgesics and increase fluid intake.

iv. Wound Infection: Open the wound and clean; take a swab for bacteriology examination (microscopy, culture and sensitivity) Vulva toileting should be done routinely.

v. Catheter Problems
Not draining – check for kinking and patient lying on it.
Blocked Catheter: this may be by clots, debris or stone
- Flush with normal saline or change catheter if still blocked.
- Catheter falls out – Re-catheterize.
When removing the catheter becomes difficult: try to over inflate the balloon, or puncture the balloon per vagina by tugging on the catheter, using 21G needle on syringe. One can feel or hear a puncture sound, then remove it.

vi. Urinary Retention: Ensure patency of catheter and that the urinary bag or bowl are lower than patient's bed where catheter is in situ. If not in situ re-pass catheter.

vii. Forgotten Materials – vaginal pack: Avoid this by using a long single strip of gauze with the tip at the introitus. Where forgotten, there will be offensive odour and vaginal discharge. Pack should be removed, and the vagina cleaned with saline or 3% solution of hydrogen peroxide.

Forgotten Suture: Suture should be cut long enough for identification where non-absorbable sutures are used.

Removal should be done in the lithotomy position under good lighting and proper exposure. The use of non-absorbable suture material for fistula repair is discouraged

viii. The Wet Bed: Patient is leaking – do a dye test preferably in the operating room and leave catheter for a longer time where leakage is from the repair site. Also check size of catheter, kinking or blockage of catheter as the cause of the wet bed.

xi. The moody patient – Fistula patients are elated when they find themselves dry after surgery. When a patient is moody, it is often as a result of wet bed. Review the patients and find cause of moodiness and treat accordingly including use of psychotherapy.

ix. Death: Confirm and certify patient dead, then give patient's relation grief counseling.

Causes of death among post operative fistula patient include:

a. Pre-existing medical conditions like, hypertension, chronic liver disease, diabetes, anaemia and in some women with early fistula, post partum hypertensive disorders or eclampsia.
b. Intra-operative complications: Haemorrage and bilateral ligation of the ureters
c. Post-operative complications like haemorrhage and infections

A good preoperative work-up of the patient to identify existing medical problems and meticulous observation of surgical details can avert these deaths in many situations. Adequate post- operative monitoring of patients and readily available resuscitative equipment and drugs in the theatre and wards for immediate use when the need arises can also circumvent many deaths.
Involve the social worker pre-operatively to ensure contact tracing.

6.4.3 Late complications

- Failed Repair - counsel the patient and rebook for another repair after 3 months or refer.
- Amenorrhea, dyspareunia and chronic pelvic pain: refer to a gynaecologist
- Secondary Fistula: Re-evaluate the patient for secondary repair or referral.
- Urethral Stricture: Dilate the urethra with graded urethral dilators. The stricture scar can also be divided with a urethrostome.

Other complications like secondary amenorrhea, dyspareunia and infertility may become significant issues when the incontinence is cured. Refer such patients to a gynaecologist for evaluation and management.

6.5 INFECTION PREVENTION

6.5.1 Objectives

- To prevent major infection when

providing services

- To minimize the risk of transmitting serious diseases such as hepatitis B and HIV/AIDS to patients, healthcare providers and staff, including cleaning and housekeeping personnel.

6.5.2 Protection Guide

- Assume every person is potentially infectious
- Wear gloves before touching anything wet on/or from the patient
- Use personal protective equipment like eye shields, boots, mask when working where splashes are anticipated
- Dispose of sharp instruments properly
- Hand washing is the single most important procedure in preventing infection
- Decontaminate instruments, linen etc before sterilization or high level disinfection

6.5.3 Clinics and Wards

Observe universal precautions. Facility offering obstetric fistula surgery must have adequate water supply. Make provision and encourage frequent and regular hand washing in the clinic, ward, theatre and patients' hostel. Encourage patients to adopt hand washing habit at home even after discharge.

In addition, sweep, scrub and mop floor and surfaces at least twice a day. Change linen on beds daily and use Mackintosh rubber sheet for wet patients to protect the beddings and mattress.

6.5.4 Theatre

- Sterilize instruments, towels, drapes and gowns by autoclaving.
- Decontaminate instruments and all materials that are in contact with blood and secretions from the body in 0.5% chlorine solution for 10 minutes before washing.
- Do high level disinfection with 0.5% chlorine solution or by boiling for 20 minutes where indicated.
- Use protective barriers such as masks, gloves, boots, aprons, eye shields during surgeries and instruments processing.
- Fumigate the theatre when new before use and every 4-6 months thereafter.

CHAPTER SEVEN

SPECIFIC ISSUES IN OBSTETRIC FISTULA TREATMENT

These are cases that require advance surgical skills, expertise and experience. You are encouraged to refer such cases to the experienced fistula surgeon or dedicated fistula centres. These cases include:

1. Fistulas that may require use of flaps and grafts during repair.
   Types of grafts used in fistula repair include Peritoneal (fibro fatty graft), gracilis graft, free skin graft, Martious graft, split skin and vascularised skin graft,
2. Fistulas that may require abdominal approach.
3. Damaged or absent urethra (Urethral reconstruction)
4. Gynaetresia or severe vaginal stenosis requiring vaginoplasty
5. Ureteric fistulas: Uretero-vaginal or uretero-cervical fistulas
6. Rectal fistula with anal sphincter damage or circumferential defect
7. Fistula with more than two previous repairs
8. rreparable fistula: May be considered for diversion procedures after careful re-evaluation.
9. Patients with Severe foot drop
   Management include physiotherapy by early mobilization and continued over 12 to 24 months. Consider surgical approach such as tibialis posterior transfer if no improvement after 2 years.
10. Non-compliant bladder: strict bladder training. Some may need augmentation cystoplasty. If the bladder neck is incompetent, refer to specialized centre.
11. Patient with amenorrhoea and/or infertility: These cases usually become issues when patients are cured and remarried or remained in marriage. Refer to the gynaecologist for evaluations and treatment. Where amenorrhoea is associated with menouria, it could be that the cervix is buried inside the bladder. In such a situation, the cervix can be repositioned back into the vagina.

7.2 CONTENTIOUS ISSUES

These are issues that have not received acceptance and many surgeons do them differently. For the purpose of this standard of practice in Nigeria, the consensus reached at various fora in the development of this document is presented. Some of these contentious issues include:

1. Examination under anaesthesia (EUA) as a booked procedure.

This is no longer recommended, but could be done just before anaesthesia or surgery as part of evaluation in determining the surgeon's level of competence. Evaluation at this stage is very much recommended to preclude situations where the surgeon starts on something above his/her competence. This type of assessment in the theatre without anaesthesia can be easily done when the clinic is not adequately equipped with light and adjustable table and is called examination in the theatre (EIT).

2. Early repair: Approach to obstetric fistula management can either be active (immediate) or non-active (delayed) management. Treatment of obstetric fistula should start as soon as incontinence is noted in a woman who has undergone an obstetric event. The treatment includes urethral catheterization and bladder drainage, evaluation for detection of infection, anaemia and nutritional deficiency for treatment. Active management of all fistulas is therefore recommended and has high potential of preventing recluse among fistula patients. Start with conservative treatment by use of Foley's catheter for two – six weeks and if the fistula does not heal proceed with surgical repair. Surgical repair can equally be done when the sloughed tissue has cleared off. However, immediate debridement and repair is not recommended.

3. Use of grafts: Many fistulas, especially those with minimal to moderate scarring heal well without the use of graft. Therefore, routine use of graft is not recommended. However, the surgeon should use his discretion on deciding which case to use graft.

4. Route of repair: Vaginal approach is the route of choice for most of the OF repairs. However, other routes can be adopted at the discretion of the surgeon and ease of accessibility for the repair.

5. Use of colostomies in recto-vaginal fistula repair as routine is no longer recommended. Where it has become necessary to use colostomy like in high circumferential recto-vaginal fistula, the colostomy must be closed within six weeks from the time it was done.

6. Routine antibiotics: Not recommended. Infection to be detected early and treated accordingly

7. Ambulation: As soon as possible (within 24 hours) according to patient's tolerance and nature of repair.

8. Post-operative position in bed: patient to adopt position of convenience unless specifically contraindicated. Where spinal anaesthesia is used, advise patient to lie flat for about twelve hours to prevent spinal headache.

9. Routine analgesia: liberal use is recommended and often, the patient can be given oral analgesics.

10. Successful repair: The goal of treatment of a woman leaking urine from obstetric fistula is continence. Successful repair therefore means the woman is continent of urine. After a surgical repair, the fistula may heal with or without continence or may not heal at all. The correct outcome should be reported.

11. Mode of catheter drainage: the important issue in catheter drainage is bladder decompression. This can be achieved by transurethral catheterization (the most practiced) or suprapubic drainage. Drainage can be into an open or closed receptacle like urine bag or an open bowl. It is a good idea to involve the patient in monitoring the urine output and therefore, bladder drainage that makes this easier is recommended.

12. Immediate pre operative fluid intake: This should be encouraged to provide hydration, help the woman with compliance during the post-operative fluid intake. This will assist with ease of identification of ureteric orifices, confirming ureteric patency and preventing post-operative ureteric obstruction.

13. Correct sutures: Use absorbable material like vicryl or extra chromic on the bladder and vagina. Where it has become necessary non absorbable materials like nylon can be used on the vagina (NEVER on the bladder). This must be removed completely within one month of surgery.

14. Fistula repair during pregnancy: An experienced surgeon can do a repair during the first trimester with good success rate. However, one should be prepared for increased bleeding because of the increased genital tract circulation in pregnancy. Repair in late pregnancy is discouraged because of difficulty with positioning and anaesthesia.

15. Anaesthesia: Spinal anaesthesia with heavy marcaine is the preferred method.

16. Selection and referral criteria: The surgeon is encouraged to evaluate the patient properly and only take on those that are within his/her competence. Complex fistulas and those that have had two failed repairs should be referred.

17. Timing of repeat repair: To allow for definition of tissue plains, allow 2 – 3 months after initial repair before attempting the next repair.

18. Where there is not enough vaginal skin to close the bladder: Options here include use of grafts or leaving it open. However, where the urethral was reconstructed, one must cover the new urethra with graft.

CHAPTER EIGHT

DOCUMENTATION AND TRAINING

8.1 DATA COLLECTION

Very important document for medical audit/research and for facility self assessment.

8.1.1 Clinical

- Bio data: Refer to previous chapter.

a) Preoperative:
   - Vital signs
   - Pre - anaesthetic review – to assess for fitness.
   - Record of pre – operative fluid balance

b) Intra - operative:
   - Record of the operation reports including the surgical team, diagnosis, procedures and proper record of complications and surgical management.

c). Post-operative:
   - Monitoring of vital signs: Request for further management and post-operative reviews.

d). Follow up:
   - Is she still leaking? If yes. Is it while lying or standing at first follow up visit?
   - Check for healing, bladder support and stress incontinence.

8.1.2 SOCIAL

- Demographic- See previous records.
- Psychological support.
- Literacy- adult education if not educated.
- Social support- who accompanied the patient and the willingness to pay for services.
- Skill acquisition – hand work/ crafts.

8.2 DEFINITION OF COMPETENCE

8.2.1 Training

i. Trainee selection criteria: The person desiring to be trained in fistula surgery must:
   - Show interest in fistula work.
   - Be a medical doctor with minimum of 3 years post NYSC.
   - Have recommendation for such training by his employers
   - Be willing to be bonded on fistula work for minimum of 2 years after training
   - Be accepted by the trainer

ii. Duration of training: This will be staggered in stages:
Initial training: Consultant 4 weeks; others 6 weeks
Advanced level training: 2 – 4 weeks and the doctor must have done no fewer than 100 surgeries after his initial

training.
Trainer's training: 2 – 4 weeks, for this level of training, the doctor must be a consultant and must have had experience with a minimum of 400 – 500 fistula repairs.

iii. Log book: Trainee will carry a log book that will show number of patient clerked (minimum of 30 patients for consultant and 60 for medical officer or resident cadre trainee); the number operated upon (minimum of 10 patients for consultant and 6 – 10 repairs for medical officers or resident trainee); the number of patients attended to at follow up, (minimum of 50 patients) during the training period. It is recommended that follow up of patients (healed or not healed) should be continuous and involve counselling on the need for ANC and hospital delivery if she becomes pregnant.

It is advised that the training team should comprise a doctor, a scrub nurse, two other nurses, an anaesthetist and social worker.

The Federal Ministry of Health in conjunction with relevant institutions will develop the curriculum to be used in such trainings.

8.2.2 Training Centre

For a facility to qualify as a training centre, it must be caring for a minimum of 300 fistula patients per annum.

8.2.3 Continuous Medical Education

This must be encouraged even after the final training in the form of attending conferences and visiting centres with advance fistula treatment services and training.

8.3 PRACTICUMS/CLINICAL

Trainees should acquaint themselves with exhaustive history taking, examination, and required surgical skills including tying of surgical knots and norms of ward rounds.

8.4 MINIMUM HUMAN RESOURCE FOR SURGICAL CARE OF FISTULA PATIENTS

Doctor - 1
Scrub Nurse - 2
Surgeon Assistant - 1
Pharmacist - 1
Nurse Anaesthetist - 1
Laboratory Technician - 1
Medical record officer - 1
Cleaners - 2
Medical Social worker - 1
Theatre Attendant - 4
Technician - 1
Security guard - 3