

Integrated Management of Pregnancy and Childbirth

Obstetric Fistula

Guiding principles for clinical management
and programme development

Making Pregnancy Safer



World Health
Organization

Acknowledgement	iii
Preface	v
Section I	vii
1 Introduction	1
2 Principles for the development of a national or sub- national strategy for the protection and treatment	7
Annex A: Recommendations on training from the Niamey meeting	22
Annex B: Recommendations on monitoring and evaluation of programmes from the Niamey meeting (2005)	25
Section II	27
3 Clinical and surgical principles for the management and repair of obstetric fistula	29
Annex C: The classification of obstetric fistula	37
4 Principles of nursing care	39
Annex D: Patient card	45
5 Principles for pre and post operative physiotherapy	47
6 Principles for the social reintegration and rehabilitation of women who have had an obstetric fistula repair	53

Acknowledgments

Editors: Gwyneth Lewis, Luc de Bernis,

Fistula Manual Steering Committee established by the International Fistula working group: Andre De Clercq, Charlotte Gardiner, Ogbaselassie Gebreamlak, Jonathan Kashima, John Kelly, Ruth Kennedy, Barbara E. Kwast, Peju Olukoya, Doyin Oluwole, Naren Patel, Joseph Ruminjo, Petra Ten Hoope,

We are grateful to the following people for their advice and help with specific chapters of this manual:

Chapter 1: Glen Mola, Charles Vangeenderhuysen

Chapter 2: Maggie Bangser, Adrian Brown, Yvonne Wettstein

Chapter 3: Fistula Surgeons: Andrew Browning, Ludovic Falandry, John Kelly, Tom Raassen, Kees Waaldijk, Ann Ward, Charles-Henry Rochat, Baye Assane Diagne, Shershah Syed, Michael Breen, Lucien Djangnikpo, Brian Hancock, Abdulrasheed Yusuf, Ouattara

Chapter 4: Ruth Kennedy

Chapter 5: Lesley Cochrane

Chapter 6: Maggie Bangser, Yvonne Wettstein

Additional thanks are due to:

France Donnay, Kate Ramsey, Claude Dumurgier, Rita Kabra, Zafarullah Gill, Barbara E. Kwast and Meena Cherian

Fistula Manual

Preface

This brief manual on Fistula prevention and management is part of the International Campaign to End Fistula. The Campaign began in 2002 with the goal of drawing attention to obstetric fistula both as a medical issue and in its social and economic dimensions in those countries where it is a significant problem. The long-term goal is to make fistula as rare a problem in these areas as it is in developed countries today.

The campaign is sponsored by UNFPA in cooperation with WHO, the International Federation of Obstetrics and Gynaecology (FIGO), the Averting Maternal Death and Disability (AMDD) Program at Columbia University, EngenderHealth, the Women's Dignity Project (Tanzania), and other nongovernmental organizations.

The purpose of this short manual is three-fold. Firstly it aims to draw attention to the urgent issue of obstetric fistula and to act as an advocacy document for change. The second objective is to provide policy makers and health professionals with both a short factual background brief and provide the principles for developing a national or regional fistula prevention and treatment strategy and programme. The third aim is to assist health care professionals in better developing their services and skills when caring for women who are undergoing treatment for fistula repair.

It can thus be read and used at many different levels by many different people, all of whom have the possibility of making changes that will turn despair into hope and restore dignity to the lives of the millions of women living in shame and poverty.

It was jointly written by key members of the Campaign and fistula experts, representing many partner organizations, with the technical and financial support of WHO. UNFPA, EngenderHealth and the Women's Dignity Project kindly allowed some short summaries of existing publications to be included here. Its publication was supported by AMDD.

WHO Family and Community Health Cluster and Making Pregnancy Safer Department hope that this document will help building a world on which women will be respected and will be able to fulfil their rights to health.

Joy Phumaphi
FCH ADG
WHO Geneva

Section I

**Understanding the problem and
developing a national approach**

Terefa's story

Terefa is fourteen years old. She lives in a small village in Africa, more than 200km from the country's capital. She is the sixth child in a family of eight children and has never been to school. Her father, a farmer, did not have enough money to send all of his children to the village school. The older children – two boys – thus benefited from schooling, while Terefa stayed at home to help her parents to survive. Her chores were to gather firewood, draw water, and help work the fields

When she was thirteen, her father married her to one of his friends who was a little better off. Terefa could only accept this marriage, and a few months later she became pregnant. Throughout her pregnancy she continued working, as if nothing had changed. The closest antenatal clinic was a few dozen kilometres from her house, so she did not go to it, for transport cost money and everyone in the village said that pregnancy was not an illness and the other women had always given birth without any problems, so why shouldn't she?

Terefa's husband and mother-in-law let the village traditional birth attendant know when labour started. The contractions became more and more violent, more and more painful, but the baby did not seem to want to come out. Terefa saw the sun rise and set three times. She was exhausted by the long ordeal. The village birth attendant tried to speed up events, first with herbal potions, then by inserting various substances into the vagina, and finally by making incisions with a rusty knife in her vagina, but nothing worked.

The village elders then met to take a decision: Terefa had to be sent to the health centre. It took several hours to collect the requisite sum, transport Terefa in a cart until the road, and find a driver to take her to the town. And Terefa was afraid, for she knew no one there and wondered how she, a simple peasant would be received.

At the health centre she was examined by a midwife. The midwife was not happy that Terefa had come so late and told her that the baby was dead, but that an operation was required. As the doctor who performed caesarean sections was away for several days for a training course, she had to go to another hospital.

After the operation, Terefa realised that she couldn't retain her urine. Back at the village she was ashamed because she had lost her child, was constantly wet and continually gave off the smell of urine. Seeing that the situation did not improve, her husband rejected her and chose another wife, and little by little the entire village turned its back on her.

Since then Terefa and her mother live in a tent at the edge of the village. The two women subsist on charity, but Terefa's health is becoming a little more precarious every day. No-one knows how much longer she will survive.

1 Introduction

‘In an unequal world, these women are the most unequal among unequal’

Living in shame

Millions of girls and young women in resource poor countries are living in shame and isolation, often abandoned by their husbands and excluded by their families and communities. They usually live in abject poverty, shunned or blamed by society and, unable to earn money, many fall deeper into poverty and further despair.

The reason for this suffering is that these young girls or women are living with an obstetric fistula due to complications which arose during childbirth. Their babies are also probably dead, which adds to their depression, pain and suffering.

An obstetric fistula is an abnormal opening between a woman's vagina and bladder and/or rectum, through which her urine and/or faeces continually leak. Naturally these women are embarrassed by their inability to control their bodily functions, that they are constantly soiled and wet, and that they smell. Their pain and shame may be further complicated by recurring infections, infertility, damage to their vaginal tissue that makes sexual activity impossible and paralysis of the muscles in their lower legs which may require the use of crutches, if any are available.

The greater tragedy is that these obstetric fistulas can be largely avoided by delaying the age of first pregnancy, prevented by the cessation of harmful traditional practices and timely access to maternity and obstetric care, and repaired by simple surgery.

The burden of suffering

The development of obstetric fistula is directly linked to one of the major causes of maternal mortality; obstructed labour. This is a labour where the mother's pelvis is too small to enable the baby to be delivered without help. The labour can last many days and often results in the death of both the mother and the baby. Should she survive she will probably develop a fistula and her baby will most likely be dead. Such labours may be predicted and can be identified and treated with access to skilled maternal care.

Worldwide each year, more than half a million healthy young women die from complications of pregnancy and childbirth. Virtually all such deaths occur in developing countries. The World Health Organization (WHO) estimate, globally, over 300 million women currently suffer from short or long term complications arising from pregnancy or childbirth with around 20 million new cases arising every year. Problems include infertility, severe anaemia, uterine prolapse and vaginal fistula.

For each maternal death it is estimated another 20 women will suffer a long term disabling condition such as an obstetric fistula. Worldwide, obstructed labour occurs in an estimated 5% of pregnancies and accounts for 8% of maternal deaths. Adolescent girls are particularly susceptible to obstructed labour, because their pelvises are not fully developed.

Throughout the world, but mainly in parts of sub-Saharan Africa and Asia it is conservatively estimated that more than 2 million young women live with untreated obstetric fistulas. It has also been estimated that between 50,000 and 100,000 new women are affected each year. These figures are undoubtedly underestimates as it has been impossible to determine the true burden of suffering to date. Not only has there been generally a lack of commitment in addressing and resolving this problem but also these women or young girls tend to live with their fear and stigmatisation in

silence and isolation unknown to the health care system.

However some in-depth studies support the widely held belief that the true number of women living with untreated fistula and suffering the consequent pain and degradation may be an underestimate, suggesting that there may be between 100,000 and 1 million women living with fistula in Nigeria alone and over 70,000 in Bangladesh, . Other studies in Nigeria, other parts of West Africa and Ethiopia estimate the incidence of fistulae to be between 1-10 per 1000 births⁶. In Ethiopia it is estimated that 9,000 women annually develop a fistula of which only 1,200 are treated .

Unless they have access to a hospital that provides subsidized treatment and care, women may live with the fistula until they die, often at a young age from complications of their fistula, and usually without support from husbands or family members. At the Addis Ababa Fistula Hospital 53% of women had been abandoned by their husbands, and one woman in every five said that she had had to beg for food to survive . In India and Pakistan some 70% to 90% of women had been abandoned or divorced, according to limited hospital studies . It is not surprising, therefore, that some women can no longer cope with the pain and suffering and resort to suicide¹⁰.

The causes of obstetric fistula

Physical causes

Obstetric fistulae are predominantly caused by a very long, or obstructed, labour which can last several days, or even a week or more before the woman receives obstetric care, or dies. If a labour remains obstructed, the unrelenting pressure of the babies head against the pelvis can greatly reduce the flow of blood to the soft tissues surrounding the bladder, vagina, and rectum. If the mother

survives, this kind of labour often ends when the fetus dies and gradually decomposes enough to slide out of the vagina. The injured pelvic tissue also rots away, leaving a hole, or fistula, between adjacent organs.

If the woman had received timely care, the baby would have been delivered by a caesarean section and both the mother and baby would most probably have survived.

Rarer causes of fistula are from sexual abuse and rape, the complications of unsafe abortions and surgical trauma (most commonly injury to the bladder at caesarean section). Gynaecological cancers and/or their radiotherapy treatment can also cause this condition although this is rare in developing countries

Lack of access to maternity care

In developed countries, both obstructed labour and obstetric fistulas are largely in the past. This is because problems with labour may be anticipated during antenatal care and difficult labours that may become obstructed can be identified by the use of the partogram and a caesarean section performed.

In resource poor countries the reality is different. The reality is that the vast majority of the women who die or who develop fistulas during childbirth do so because they do not receive the health care that they need. This may be due to a lack of basic health care provision or through, for whatever reason, an inability to access the local health care services.

The need for skilled care

Skilled care before and after birth, but particularly during labour, can make the difference between life and death for women and their babies, and the prevention of obstetric fistula yet only a half of women in developing countries receive assistance from a skilled attendant during delivery⁴. The WHO publication "Global action for skilled attendants for pregnant women" sets out the evidence and responsibilities for increasing access to skilled professionals at delivery as well as identifying steps to maximise the effectiveness of current staff in countries where trained professionals are scarce.

Availability of facilities

Accessing suitably equipped facilities for antenatal care and safe childbirth is usually difficult, especially in rural settings where health centres able to provide basic emergency obstetric careⁱ

ⁱ *Basic essential obstetric care (BEOC) includes the availability of parenteral antibiotics, oxytocics, treatments for eclampsia, assisted vaginal delivery (vacuum extraction), manual removal of placenta and removal of retained products (MVA)).*

ⁱⁱ *Comprehensive essential obstetric care (CEOC) should include all elements of BEOC plus 24 hour facilities caesarian section and blood transfusion.*

may be 70 kms away, with no easy or affordable form of transport. Even where such centres exist there is often a lack of accessible referral facilities, even further away, that can provide comprehensive emergency obstetric care such as caesarean section.

Assessments of basic and comprehensive emergency obstetric care in a number of Anglophone and Francophone African countries conducted recently by UNFPA and UNICEF found that each country had one comprehensive emergency obstetric facility per 500,000 population, but none had the required number of facilities for basic emergency obstetric care. Further, only 8.2 – 35 % of women with complications in labour received care at an appropriate facility.

Even if women manage to travel to these facilities they are often required to provide their own gloves, dressings etc for a clean delivery and may be required to pay official, and often unofficial, costs. For a poor family living in extreme poverty the costs of an emergency caesarean section can be crippling and some families cannot afford them, or are left in debt for many years. A recent study in rural Tanzania estimated the average cost of an emergency caesarean section to be US \$135 compared to the average family annual income of US\$115.

Improving access to timely obstetric care is the most important first step that can be taken to prevent fistula from occurring in the first place. The problems in accessing maternity care that can lead to maternal deaths or complications are commonly referred to as the three delays and fistula, too, can develop because of any one of these:

- 1) delay in deciding to seek care; community or socio-cultural factors or being unaware of the need for care or of the warning signs of problems
- 2) delay in reaching a health care facility; perhaps because of transport problems, distance or cost
- (3) delay in receiving adequate care at the facility; resources (human, equipment etc) may not have been available or the care provided inadequate, or actually harmful.

Lack of knowledge or facilities for fistula repair.

Once they occur, obstetric fistulas need surgical repair; they usually cannot heal

by themselves. The principles for this are described in the chapter in this manual on surgical repair. Over 90% of women can be cured at the first operation and resume an active and fulfilling life, including having further children.

However many women or their families, especially those who lacked skilled care during delivery, may not know that a treatment exists for fistula. And even where services exist they are often too far away or too expensive. In developing countries, a few specialized fistula hospitals or services exist particularly in parts of Ethiopia, Nigeria, Sudan, Tanzania and Pakistan. But most doctors have no training in fistula repair, and most hospitals and clinics are unable to treat fistulas successfully.

Underlying social causes

Most fistulas occur among women living in poverty in traditional cultures, where women's status and self-worth may depend almost entirely on marriage and childbearing.

Poverty

While the immediate causes of obstetric fistula are obstructed labour and lack of emergency obstetric care, pervasive poverty is an important root cause. Women who suffer from obstetric fistula tend to be impoverished, malnourished, lack basic education and live in remote or rural areas. Two studies of the epidemiology of fistulas have found that over 99% of women undergoing repair were illiterate.

In sub-Saharan Africa the incidence of obstetric fistula has been estimated to be about 124 cases per 100,000 deliveries in rural areas compared with virtually no cases in major cities. Like many other women in remote areas of poor countries, most women who develop untreated fistulas give birth at home without assistance from skilled attendants.

Early marriage and childbirth

The traditional practice of early marriage contributes to risk of obstructed labour and fistulas. In parts of sub-Saharan Africa and South Asia, where obstetric fistula is most common, women often marry as adolescents, sometimes as young as 10 years of age, and many become pregnant immediately thereafter, before their pelvises are fully developed for childbearing. In Nigeria and Ethiopia, for example, over 25% of fistula

patients had become pregnant before age 15, and over 50% had become pregnant before the age of 18 . Fistula formation is also more likely to follow a first labour and often these women and girls may have been the victim of forced marriage. Many adolescent girls in developing countries may also be undernourished and underweight, thus compounding the risks⁷.

Too early marriage, family planning and birth spacing

In many traditional communities early marriage and childbearing, and large families are the norm and there is little awareness of the need to delay the first pregnancy, or to space pregnancies well apart to enable the mother to recover and gain strength before embarking on a subsequent pregnancy. However, addressing these issues is beyond the ability of the health service to respond. Deeply embedded cultural and social values and systems of beliefs continue to form barriers which prevent young women from being able to manage their own lives and bodies. Changes in social and cultural attitudes and enabling legislation to protect the rights of adolescent girls health are also needed to help women delay their first pregnancy until they are physically able to deliver safely.

It has been estimated that up to 100,000 maternal deaths a year could be prevented each year if women who do not wish to become pregnant had access to, and used, effective contraception . The number of fistula that could be prevented by the availability of family planning must therefore be considerably higher. Further, the UK Department for International Development (DFID) estimate that delaying the age of marriage and first birth, preventing unwanted pregnancy and eliminating unsafe abortion will avert one third of maternal deaths and birth spacing and prevention of pregnancy in very young women may reduce neonatal mortality by one quarter .

The role and status of women

The low status of women, particularly young women who are just married, plays a fundamental part in fistula development. Some women are denied access to care, or actually harmed, due to cultural beliefs and traditional practices. Some women may live in seclusion and for many the responsibility for decision making to seek health care in pregnancy or even after a prolonged labour falls to her husband or other family

members, including her mother-in-law. When they fail in their perceived duty to bear live children, and worse, develop the stigmatising condition of obstetric fistula, they are often discarded by their husband's family with no means of self-sufficiency. They are usually immediately divorced and left to fend for themselves.

Harmful traditional practices

Harmful traditional practices, such as female genital cutting or mutilation (FGC or FGM), also contribute to the risk. Such cutting is usually carried out under unsanitary conditions, often removing large amounts of vaginal or vulval tissue thus causing the vaginal outlet and birth canal to become constricted by thick scar tissue. These practices increase the likelihood of gynaecological and obstetric complications, including prolonged labour and fistulas. Although there are few statistics, these practices may increase the likelihood of such complications by nearly seven times.

Harmful cutting before or during labour by unskilled birth attendants also contributes to fistula formation. In some countries, a traditional midwife or barber uses a sharp instrument, such as a knife, razor blade, or piece of broken glass, to make a series of random cuts in the vagina in an attempt to either prepare the vagina for delivery or, during labour, to remove the obstruction and make way for the baby. These practices may explain as many as 15% of fistula cases some parts of Africa .

Sexual violence

While most fistula cases in developing countries stem from obstetric causes, many others result from direct traumatic tearing caused by rape or trauma. For example, at the Addis Ababa Fistula Hospital, which treats about 1,200 fistula cases per year, a study found that over a six-year period 91 fistula cases were caused by rape or sexual abuse within a marriage . It is difficult to estimate the prevalence of fistula caused by sexual abuse, however, because many victims do not seek treatment, often fearing stigmatization or lacking access to health care . In wartime conditions sexual violence is common, often used as tactic to intimidate and control.. Aid workers in war-torn areas have estimated that one woman in every three is a rape victim and that the majority of new fistula cases are caused by rape .

Developing strategies; the time is now.

Currently there is a world-wide effort to reduce maternal mortality in line with the Millennium Development Goals to reduce maternal mortality by 75% by 2115 . This was restated and re-emphasized by World Health Day 2005 being dedicated to maternal and newborn health, with the World Health Report for 2005 being devoted entirely to ensuring more action to save mothers and newborns lives³.

As this chapter has shown, the determinants for both maternal deaths and obstetric fistula are the same. Thus strategies that are currently being designed to develop national programmes to improve maternal and newborn health are directly linked to those aimed at fistula prevention and cure. There

can be no better time than now to assimilate the fistula prevention and treatment strategies outlined in Chapter 2, into an integrated maternal health strategy designed to ensure all pregnant women are delivered safely and return home, with a healthy baby, to a loving and supportive family.

UNFPA has just published an in depth background book “Obstetric Fistula: Ending the Silence, Easing the Suffering” which provides more information on both the International Campaign to end Fistula as well much more in depth information on both the problems and examples of good practice. Further information about the both is available on the UNFPA website: <http://www.unfpa.org/fistula>.

References

Zacharin RF. A history of obstetric vesicovaginal fistula. *Aust N Z J Surg.* 2000; 70: 851-854.

World Health Organization Maternal Mortality in 2000: Estimates Developed by WHO, UNICEF and UNFPA, World Health Organization, Geneva 2003. www.who.int

Make every mother and child count. World Health Report, 2005. World Health Organization. www.who.int

AbouZahr C. Global burden of maternal death. In: *British Medical Bulletin. Pregnancy: Reducing maternal death and disability.* British Council. Oxford University Press.2003. 1-13. www.bmb.oupjournals.org

UNFPA, FIGO, Columbia University sponsored Second Meeting of the Working Group for the Prevention and Treatment of Obstetric Fistula, Addis Ababa 2002.

Wall,L L. Dead mothers and injured wives: The social context of maternal morbidity and mortality among the Hausa of northern Nigeria. *Studies in family planning* 19 (4): 341-359.dec 1998.

UNFPA. Proceedings of South Asia Conference for the prevention and treatment of obstetric fistula. 9-11 December 2003. Dhaka, Bangladesh. New York UNFPA 2004.

United Nations Population Fund (UNFPA) and Engenderhealth. Obstetric fistula needs assessment report: Findings from nine African countries. [Report]. New York, United Nations Population Fund and EngenderHealth, 2003. 95 p. (Available: <http://www.unfpa.org/upload/lib_pub_file/186_filename_fistula-needs-assessment.pdf>)

UNFPA, AMDD, FIGO. Report on the meeting for the prevention and treatment of obstetrics fistula. 18-19 July, London, 2001. New York: technical support division, UNFPA.2001

. Wall, L. L., Arrowsmith, S., Briggs, N. S., and Lasey, A. Urinary incontinence in the developing world: The obstetric fistula. Proceedings of the Second International Consultation on Urinary Incontinence, Paris, Jul. 1-3, 2001. Committee on Urinary Incontinence in the Developing World, p. 1-67. (Available: <<http://www.wfmic.org/chap12.pdf>>)

Cottingham, J. and Royston, E. Obstetric fistula: A review of available information. Geneva, World Health Organization (WHO), 1991. (Maternal Health and Safe Motherhood Programme) 39 p.

World Health Organization. Global action for skilled attendant for pregnant women. WHO/RHR/02.17. 2004.

Report of a UNFPA/AMDD meeting, Yaoundé, Cameroon, Feb. 2005. Unpublished.

Women's Dignity Project, Faces of Dignity, 2003, Dar es Salaam, Tanzania www.womensdignity.org/

Kowalewski M, Mujinja P, Janh A. can mothers afford maternal health care costs? User costs of maternity services in rural Tanzania. *African Journal of Reproductive Health*, 2002, 6(1):65-73.

Thaddeus, S. and Maine, D. Too far to walk: Maternal mortality in context. *Social Science and Medicine* 38: 1091-1110.

Tahzob F. Epidemiological determinants of vesicovaginal fistulas. *Br J Obstetric Gynaecol.*1983;09(5): 387-391

Emembolu J. The obstetric fistula :factors associated with improved pregnancy outcome after a successful repair. *Int J Gynaecol Obstet.* 1992; 39:205-212.

Vangeenderhuysen, D., Prual, A. and Ould el Joud, D. Obstetric fistulae: Incidence estimates for sub-Saharan Africa. *International Journal of Gynecology & Obstetrics* 73: 65-66. 2001.

Ampofo, K. E. Risk factors of vesico-vaginal fistulae in Maiduguri, Nigeria: A case-control study. *Tropical Doctor*: 138-139. Jul. 1990.

Kelly J and Kwast BE. Epidemiologic study of vesico-vaginal fistula in Ethiopia. *Int Urogyn J.* 1993;4:278-281.

Marston C, Cleland JC. Do unintended pregnancies carried to term lead to adverse outcomes for mother and child? An assessment in five developing countries. *Population Studies*, 2003, 57:77-93.

Reducing maternal deaths; Evidence and action. A strategy for DFID. London Department for International Development. September 2004. www.dfid.gov.uk

Wall, L. L. Dead mothers and injured wives: The social context of maternal morbidity and mortality among the Hausa of northern Nigeria. *Studies in Family Planning* 29(4): 341-359. Dec. 1998.

Muleta, M. and Williams, G. Postcoital injuries treated at the Addis Ababa Fistula Hospital, 1991-1997. *Lancet* 354. Dec. 11, 1999.

Human Rights Watch. The war within the war: Sexual violence against women and girls in eastern Congo. Jun. 2002. 128 p. (Available: <<http://www.hrw.org/reports/2002/drc/Congo0602.pdf>>)

Wax, E. A brutal legacy of Congo war. *Washington Post* Oct. 25, 2003.

United Nations Millennium declaration. New York, NY, United Nations, 2000 (United Nations General Assembly resolution 55/2). <http://www.un.org/millennium/declaration>

2

Principles for the development of a national or sub-national strategy for the prevention and treatment of obstetric fistula

2.1 Introduction

As discussed in Chapter 1, the factors that lead women to develop obstetric fistula (OF) are the same as those which cause maternal morbidity and mortality as well as many newborn deaths. Preventive strategies to reduce the one will have a significant impact on the other. Any strategy for OF prevention and treatment should, therefore, be an integral part of the national maternal and neonatal health strategy or maternal and neonatal mortality reduction plan. This is a particularly opportune moment for countries to develop their own OF plans as they are currently in the process of developing and implementing strategies to reduce maternal and newborn deaths in order to achieve the Millennium Development Goals. It is also important that this plan is integrated into a broader Reproductive Health plan as well as National development plan and Poverty reduction strategies papers.

The need for obstetric fistula prevention and treatment services will vary greatly between individual countries or possibly between regions or areas within one country. Although policies and strategies to prevent and treat OF need to be adapted with national support, in some circumstances they may need to be modified at local level to identify, address and overcome the individual circumstances and constraints in a particular area or amongst specific local high-risk populations.

Due to the variety of circumstances and barriers to care that need to be overcome in countries, this chapter is not prescriptive. Instead it suggests possible approaches, and models of delivering preventative and treatment services that a national OF strategy committee or regional sub-committees may wish to consider.

The long-term goal of any national fistula programme should be to:

- Prevent women from developing fistula through health promotion and awareness, and the development of high quality essential basic and comprehensive maternal health services, available to all.
- Ensure all women living with a fistula have easy and early access to skilled professionals able to repair simple fistula and/or refer more complex cases to more experienced colleagues, and,
- Ensure that each girl's and woman's right to health, including reproductive rights, which are closely linked with the prevention of OF, are recognised and protected by the provision of an enabling policy and regulatory environment.

The wider social determinants for the improving the general health of women may include, for example, addressing the issues of improving child and adolescent nutrition for girls, recognising a girls' rights to education and setting a minimum age for marriage. Health system issues include providing health education and access to modern methods for family planning as well as easy access to maternity health services. Cultural barriers to be overcome include enabling women to seek care without the need for her to seek authorisation from her family or community members.

None of these measures clinical or social, will be simple or easy to achieve, particularly in resource poor countries. However, it is possible to develop a realistic fistula programme with short and medium term goals that can be met in a step-by-step manner, providing there is continuing support at national, regional and local level.

2.2 Developing an OF prevention and treatment strategy.

Developing a strategy will need a consistent and stepwise approach. The elements to be considered include:

1. Setting up a National OF strategy committee as an integral part of the national maternal and newborn health strategy committee or task force.
2. Gathering available information on the prevalence and incidence of OF in all parts of the country. Identifying any specific local determinants, mapping current preventive and curative service provision and undertaking a needs assessment to guide future policy development. In some countries existing information be enhanced by the commissioning of more specific surveys either in facilities or at community level, as discussed later.
3. Based on these findings to develop, within the national maternal and newborn health strategy, a policy framework with realistic short, medium and long terms objectives with associated financial costings and budget. The programme will need to address the following areas:
 - a. Strategies for OF prevention, including health promotion, family planning, the provision of access to skilled care during pregnancy and childbirth, basic and comprehensive emergency obstetric services and an enabling legal and policy framework.
 - b. Providing adequate facilities for OF treatment and repair and post-operative rehabilitation.
 - c. Building a sustainable cadre of health care workers trained in OF prevention, management and repair.
4. To promote and oversee the implementation of the policy, and to advocate for resources.
5. To regularly monitor and evaluate the success (and failures) of the programme and, in light of these findings, to modify and refine the programme accordingly.

2.3 The national OF prevention and treatment policy committee

To date the development of in country OF treatment and prevention programmes has

been patchy. Experience in some countries has shown that the initial work has been initiated by small groups of committed health professionals and NGOs working outside the formal health system structures, and, for some, as their work developed it became part of mainstream programming. However, without the support of national Governments and firmly embedded within the formal health and social care context, OF treatment and prevention programmes will not become a routine part of the safe motherhood initiative.

As the principles for the prevention and treatment of OF are so closely aligned to safe motherhood the development of a national OF strategy should either be part of the core work of the National Maternal and Newborn Health (MNH) committee or undertaken by a sub-group reporting to the overall national committee. Membership of the team should be multi-disciplinary and multi-agency. It should be kept as small and as workable as possible, and should include, as a minimum:

- A representative(s) from the national Ministry of Health and, if necessary, from local health agencies in specific areas of need. When exist Ministry of Women's Affairs or equivalent should also be represented.
- Representatives from the leaders of professional organisations whose members, once sensitised to the issues, can make a difference both in terms of promoting good preventive and clinical practice as well as ensuring OF becomes a mandatory part of all relevant undergraduate and postgraduate training curricula. Representatives may include those nominated by the national societies of obstetricians and gynaecologists, midwives, nursing, public health and health promotion as well as academic institutions responsible for pre and in-service training and research.
- doctors and surgeons, midwives, nurses and social workers experienced in working in the field of OF prevention, surgery and rehabilitation.
- an economist and statistician.
- representatives from international agencies and bilateral cooperation, national and international non-governmental organisations (NGOs) and private institutions involved in fistula service provision, safe motherhood

activities, community development, participatory governance and,

- representatives from women's and community based organisations.

All members of the team should be able to powerfully advocate for the need to prevent and treat OF within their own constituencies and the media as well as working together jointly at national level. The team should have clear terms of reference, well-defined roles and responsibilities and the power and autonomy to make decisions. Adequate resources and lines of communication should be available to enable them to function effectively.

It is also necessary for the national committee to work closely with other government departments and agencies. By working together an aligned vision can be formed, which is able to deliver the wider long term objectives of eradicating OF through health promotion programmes and the provision of adequate health care services. Other, wider determinants of health, including poverty, transport, agriculture, education and the environment will also need to be taken into consideration.

2.4 Collecting information

A number of different types of baseline information are ideally required to develop and monitor OF prevention and treatment programmes. The information required will include using available data to determine the size of the problem and which particular groups of women are affected by it (levels/numbers), any underlying factors that directly cause or contribute to the problem and which can lead to the identification of potential solutions (determinants and interventions), and information with which actions to reduce the problem can be planned, carried out and assessed (progress). All these types of information can also draw attention to the problem of OF (advocacy). No single data collection tool will be able to provide information to meet all of these needs. This manual suggests a variety of methods which could be combined to help design and direct such programmes should this be a cost effective use of resources. However, it should be borne in mind that the overall priority should be to take action as soon as possible rather than waiting for the results of detailed and possibly costly studies that may detract such scarce resources that are available.

Before planning data collection to underpin OF policy development, it is important that the National Committee identify what types of information on OF, maternal deaths and severe morbidity are already available to them. Health care planners, managers and professionals may have access to multiple sources and types of information that should help to identify strengths and weaknesses in the maternal health care system, including the policy environment, and which they can use in their planning and management activities. Population-based data, such as demographic and health surveys, censuses and vital registration systems, can provide information on the population as a whole, including data on the estimated level of OF, maternal mortality, maternal health coverage, and community knowledge, attitudes and practices. Routine health information activities as well as special surveys and maternal health needs assessments provide health service related information, such as that on health service infrastructure, available resources, and current health care practices in facilities.

Boxes 2.1 and 2.2, in the later monitoring and evaluation section in this chapter suggests a list basic and more specific indicators that may help provide some baseline data as well those able to monitor the success or limitations of the programme.

A baseline needs assessment and service mapping

Building on the information that is already available, and before a strategy for reducing the prevalence and improving treatment services is developed, it is advisable to perform a needs assessment of the situation within the particular country or region. This is because the data already available may be scanty, incomplete and directed to maternal and newborn mortality and morbidity and not specifically designed to provide information on the prevalence and unmet need for OF services. This should not only provide baseline estimates on the current burden of women living with fistula but an indication of the capacity of the existing health system and maternal health services to care for these women. It should also identify the specific barriers to care faced by women from particular groups in society or from specific areas of the country. The information provided by the needs assessment will thus enable policy makers to devise realistic programmes to reduce the impact of OF and to set reasonable milestones to achieve this.

Mapping existing services provides useful information to planners and policy-makers by identifying any gaps in services, equipment and human resources for emergency obstetric care (basic and comprehensive) and fistula services. A World Health Organisation (WHO) tool, the Service Availability Mapping (SAM), is available to help with this. Obstetric fistula needs assessments, aimed at estimating the number of women living with fistula and the current national treatment capacities have been conducted in a number of countries within the global campaign to end OF by EngenderHealth and UNFPA.

If data is inadequate activities related to the prevention and treatment of OF should not be delayed. The top priority for any OF programme should be to start to address and overcome the current shortcomings in service provision as further data collection can be undertaken as and when resources allow. Should the committee consider it appropriate to undertake larger studies to determine the prevalence and incidence of OF there are some relatively simple approaches to needs assessment that could be applied in settings where data is currently limited.

i. Epidemiological

This involves the collection, collation and analysis of data routinely collected by health and other government departments and other data such as community surveys to give an indication as to the 'unmet need' for fistula prevention and repair services for a particular community. Unfortunately, as for other maternal morbidities, in many areas where fistula are prevalent data collection systems have usually either not been established or are not robust or reliable. Most of data on fistula is from hospital services, which does not take account of the majority of women hidden in the community who are unable to seek medical care. It may therefore be necessary to collect primary data. This may be through community-based surveys using more qualitative approaches to estimate the unmet need. Proxy measures may also be available to estimate the prevalence and burden of obstetric fistula. For example high maternal mortality rates or high rates of uterine rupture are often associated with a high prevalence of obstetric fistula. The quality of data available will also provide helpful information on what type of support will be required to strengthen the overall maternal and newborn health information systems.

ii. Stakeholder analysis

This approach involves drawing together the information and opinions of experts in the field, women and their families who live with fistula or have had fistula treated, local providers or potential local providers of services, government, NGOs and community based organizations, and other relevant stakeholders. This may involve mapping out in detail the current preventative and treatment services available to women in a particular area and revealing areas of potential unmet need. The information can then be assimilated to provide an overview of the existing situation, provide information on what is currently working well, what could be improved and how this could be achieved. Methodologies based on participatory processes aimed at creating strong ownership, such as the 'Strategic Approach' developed by WHO may be adapted for use in relation to obstetric fistula.

Community or facility based reviews into the local determinants of fistula

Knowing the prevalence of women living with fistula, or the incidence of new cases occurring each year, is in itself not sufficient to develop a sustainable OF programme. It is also necessary to understand the underlying determinants that lead to fistula formation as, only then, can effective ways to improve the local situation be determined. The causes may well be multi-factorial but often relate to access to services during complicated or obstructed labour. Reviewing individual cases and aggregating the findings, either retrospectively or prospectively, through community-based or facility-based case reviews will help to delineate the particular issues locally and provide indications as to potential solutions. It is vital that local health professionals and relevant policy makers are involved in the process, as they are the key people who can advocate for, and implement, the necessary changes at local level.

How to undertake such studies are described in step-by step detail in the WHO Manual 'Beyond the Numbers - Reviewing maternal deaths and complications to make pregnancy safer' (BTN), which also describes a number of other approaches to enable policy makers to understand why mothers die or suffer severe morbidity, such as OF, in order to develop programmes designed to promote safe motherhood. The other methodologies described in the BTN manual are how to undertake reviews of severe morbidity (near

miss cases), confidential enquiries into maternal deaths and clinical audit.

Reviewing the cases of women living with fistula in the community will help determine any personal, family or community factors that led to their fistula formation or why they did not seek treatment for the fistula once formed. Issues may include lack of education around pregnancy and childbirth, cultural factors inhibiting women's access appropriate care or financial and logistical barriers to accessing services. Community based surveys require the co-operation of the women, their families and communities and need particular sensitivity to avoid to appear to apportion blame. These studies are of particular importance in areas of high OF prevalence where most women did not seek intrapartum care and live in isolation and shame with a condition they or their families probably do not know can be cured. These reviews involving community members can be designed and used as opportunities for increasing community awareness and mobilisation for safe motherhood activities. Case-reviews should be action-oriented. The Women's Dignity Project/EngenderHealth research is a strong case in point reference please Maggie.

Facility-based reviews are easier to undertake, as the women will have presented to a hospital for management of obstructed labour or fistula repair. They will not only identify similar issues as with the community based reviews but will provide information on other delays, for example difficulty accessing professional help locally and poor access or long journeys to a health care facility. As women presenting to health care facilities may have travelled long distances to access these services, such reviews may not provide information relevant to the specific community from which they came. These reviews are, however, useful in providing an overall general picture of the problems these women face.

2.5 Developing realistic policies and strategies

A national strategy with short, medium and long term objectives

Strategy and policy development to overcome OF needs to be based on developing and promoting short, medium and longer term objectives and milestones to measure achievement. Where possible it should include estimations of resources (financial and human) required and

feasibility. When identifying priorities, and calculating the costs of interventions and services, it is best to look beyond the constraints of individual budgets and consider the longer term benefits. Consultation with stakeholders both within and outside the policy making will help to increase ownership of the proposals.

A strategy document should be produced which summarises the information gathered, the policy objectives, how they relate to the national policy for maternal and neonatal health and how these are to be delivered locally. This may include identifying some of the goals and milestones suggested below with appropriate timescales and lines of responsibility. The strategy should be agreed by the national OF strategy committee and endorsement should be sought from key individuals of Ministry of Health and partner organisations. Since the determinants of fistula are broad in nature the strategy, as necessary also for maternal and newborn health strategy, should be endorsed across government departments. Developing a 'coalition of support' in this way will maximise successful delivery. Eliciting media and private sector support may also increase effectiveness.

Different countries and regions will differ in the level of need with regard to development of preventative and curative services. There will also be differing levels of available resources both in human and economics terms and it is not possible for this manual to describe an "ideal" programme suitable for every country. Individual national OF strategy committee will need to develop their own population specific policies and measurable milestones. The following are offered as suggestions for these, knowing that a mix of short, middle and long term objectives has to be addressed throughout the process:

Short-term objectives

1. Establish a National OF strategy committee and programme, which is integrated with the national maternal and newborn health strategy.
2. Undertake a national needs assessment and map current services.
3. Identify any gaps in information available and, if it is considered necessary and an efficient use of resources by the OF National Committee, commission relevant research.

4. Improve support to, and strengthening of, existing obstetric and fistula repair services, including capacity building and the use of international expertise when necessary.
5. Plan the introduction of a given number of accessible quality fistula treatment and rehabilitation services (using a locally suitable and sustainable model of service delivery).
6. Introduce health promotion and education initiatives to reduce the incidence of new OF by stressing the need for skilled care during childbirth, as well as explaining what a fistula is, how it can be prevented, and most importantly, that it is curable.
7. As part of the safe motherhood programme, strengthen maternal health services, including the need to enable all pregnant women to have antenatal care and a skilled attendant during childbirth.
8. Include knowledge of OF, its prevention and treatment (including the management of labour, use of the partograph, obstructed labour, etc) in all relevant nursing, midwifery and medical undergraduate and post graduate curricula.
9. Develop plans to provide sufficient capacity, both staff and facilities, for fistula repair services to meet the needs of the population of women in the country.
10. Start to increase awareness on fistula repair capacities among providers and communities.

Medium-term objectives

1. To have introduced a given number of accessible quality fistula treatment and rehabilitation services (using a locally suitable and sustainable model of service delivery).
2. To have started a core training programme for surgeons and other able to undertake fistula repair, with national oversight and measurable standards.
3. To have developed at least one centre for training established surgeons to become basic fistula repair trainers.
4. To have started a routine data collection and, if considered appropriate, audit system,
5. To have strengthened health promotion

initiatives related to safe motherhood and reducing fistula formation and associated stigma.

6. To have established a good referral system for women living with fistula.

Long-term objectives

1. To have a fully functioning national OF fistula treatment and prevention service
2. To have reduced the number of women requiring fistula repair
3. To have increased the number of women who have access to antenatal care and a skilled attendant during childbirth,
4. To have provided access to comprehensive emergency obstetric care for all pregnant women in need.
5. To have addressed the wider issue of women's and adolescent girl's reproductive rights including delaying the age of marriage and first pregnancy.

2.6 Essential components for any strategy

Any strategy, within any timescale, needs to concurrently address both activities for the prevention and treatment of OF in communities at risk. It should also:

- be integrated into the national strategy to improve maternal and newborn health, including skilled care during childbirth and access to basic and emergency obstetric care services.
- be included as a key component of health education programmes.
- be based on the results of the needs assessment and a sound understanding of the social and medical circumstances that lead to OF.
- plan for the development of sustainable treatment services by building capacity for services for OF repair both in terms of accessible facilities able to provide treatment and by the training of local health care personnel in the management and surgical repair of OF.
- ensuring OF, its prevention and treatment are included in the undergraduate and postgraduate curricula for all relevant health care workers.
- address social and cultural issues such as early marriage, birth spacing, access to family planning and the socio-cultural barriers which may prevent women

seeking obstetric care or treatment for OF.

2.7 Strategies for prevention

Recommendations to prevent OF fall into three types:

Primary prevention strategies:

These are aimed at ensuring pregnancies are planned, wanted, and occur at an optimal time in the woman's life. It is a strategy based on the principles of health promotion and education designed to ensure that all women, their families and communities understand the need for delaying the age of first pregnancy, the advantages of birth spacing and providing access to family planning.

Ideally, the wider social determinants maternal ill health that arise from women's poorer health status before pregnancy, should also be addressed by both the OF and safe motherhood programme. In many parts of the world it is usual for girl children and women to receive less nutritious food than their brothers or husbands. Such mal or undernourished girls and young women are anaemic, and thus less able to manage the physiological demands of pregnancy or haemorrhage, have poor growth with their underdeveloped pelvises leading to an increased incidence of obstructed labour, and generally less able to manage any other complications of pregnancy that may arise. Girls also are less likely to be educated and illiterate girls are far more likely to suffer from complications of pregnancy including OF. Cultural barriers to be overcome include enabling women to seek care without the need for her to seek authorisation from her family or community members.

Secondary prevention strategies:

Once a girl or woman is pregnant she and her family and community need to be aware of the need for seeking antenatal care, including plan for birth and emergency, and the importance of skilled care at childbirth, and the signs and symptoms of possible problems during pregnancy and childbirth such as prolonged labour. Examples include increasing community awareness, traditional birth attendants and women's knowledge about normal pregnancy and delivery and when and where to seek help, and why. However, increasing knowledge is not enough and easy access to, as a minimum, a

local essential basic obstetric care facility is paramount.

One of the principal measures to reduce maternal mortality and prevent fistula formation is to ensure that women universally have a skilled professional present during childbirth and access to comprehensive obstetric care services should these be required. The recent WHO publication "Global action for skilled attendants for pregnant women" sets out the evidence and responsibilities for increasing access to skilled professionals at delivery as well as identifying steps to maximise the effectiveness of current staff in countries where trained professionals are scarce. The document "Making pregnancy safer – the critical role of the skilled attendant" (WHO, ICM, FIGO) provides information on the required skills and abilities of professionals attending delivery and also advice on planning a strategy to ensure adequate provision of skilled attendants. WHO has developed a set of tools named Integrated Management of Pregnancy and Childbirth (IMPAC) which provides the key clinical and managerial interventions at first and referral levels. Consistent use and correct monitoring of labour with a partograph has been proven as effective to early diagnose and manage prolonged/obstructed labour. Referring to setting where caesarean section and assisted vaginal delivery can be timely performed is the key intervention to prevent deaths and complications related to obstructed labour.

Tertiary prevention strategies:

These are designed to identify and prevent the development in fistula in labouring or recently delivered women at risk. This includes monitoring every labour by use of a partograph to identify those women who are at risk of, or who have developed obstructed labour and to easily refer them, if services are not available on site, to a comprehensive emergency obstetric care facility with the capacity to undertake caesarean sections and assisted vaginal deliveries. WHO recommend the use of partograph at any birth. Midwives and doctors should also be trained, as described in detail in the chapter on the surgical management of OF, to help prevent fistula formation or enable closure of very small fistula without surgery by the use of an indwelling urinary catheter for all mothers who have survived an obstructed labour. This simple technique will help very small OF to close and is estimated to prevent

fistula formation in between 10% to 20% cases. Further, all pregnant women who experienced prolonged or obstructed labour should be informed about fistula symptoms and encouraged to consult a skilled attendant as soon as such symptoms appear.

Community involvement

Women living with fistula very often suffer stigma, discrimination and become outcasts in their society. This not only has individual psychological consequences but also means women living with fistula are often hidden and thus more difficult to reach if repair services are available. In tandem with changing the wider determinants of fistula and providing repair services, it is necessary for all stakeholders to contribute to the empowerment of women, men, families and communities to increase control over maternal and newborn health as well as to increase access and utilization of quality health services. This involves education and health promotion on the prevention of fistula and information on the availability of repair services to both communities and their leaders. It has been demonstrated that community involvement and participation is key for maternal and neonatal mortality and morbidity reduction strategies. The role of local Non Governmental Organisations and other groups active in local communities promoting fistula awareness, prevention and treatment is also crucial and they should be involved in the development of any local or national action plans.

2.8 Providing services for fistula treatment and repair

Settings for treatment care and models for service delivery

Although long-term strategies to reduce or eradicate obstetric fistula must focus on access to care, the management of obstructed labour, and delaying the age of first childbirth, the needs of women who have already developed fistula and their special claim on resources must also be met.

Women living with obstetric fistula not only suffer from physical, psychological and social problems and stigmatization but are often from the most vulnerable and marginalised groups of society. The care and support they will require to rebuild their lives goes far beyond just the initial medical interventions. They, and if possible their families, need understanding and support to enable them to adjust to their new and changed

circumstances and to repair their shattered lives. This, therefore, ideally requires a specialist multi-disciplinary and holistic approach.

Currently very few hospitals or surgeons offer fistula repair services because of lack of facilities, capacity or trained staff. Even if a woman reaches a facility able to offer repair, these operations are often not regarded as emergencies and slip down or off the already busy operating theatre list. Such facilities also may lack the capacity to care for the women for a prolonged period of time. Until OF fistula repair and rehabilitation becomes a routine part of any hospital's work alternative strategies need to be developed.

There are several different models of care currently in practice, or under development, in different countries and settings. There is no strong evidence to date as to the most appropriate model or way to deliver fistula repair services, and the best model to adopt must be considered in light of the local context. Factors influencing the best type of service to provide include geographical factors (such as distance and terrain), transport infrastructures and communication networks, the configuration of existing health care services and the availability of current and potential future trained staff in fistula repair. Depending on these and other factors, countries can develop locally responsive strategies. Any of these models should be grounded, however, on the promotion of good obstetric care and access to skilled attendants. Current models of service delivery include:

- Stand-alone fistula centres (for example the Fistula Hospital, Addis Ababa, Ethiopia; Babbar Ruga Fistula Hospital, Katsina, Nigeria)
- Fistula centres within existing general hospitals or maternity units (for example Nigeria, Niger, Benin, Tanzania)
- Fistula repair within the urology or obstetric department of general hospitals (for example Tanzania, Mali, Senegal, Kenya)
- Satellite fistula repair units linked to a fistula centre (for example Northern Nigeria, planned development in Ethiopia)
- Multi-level/multi-tiered national systems for fistula care. This approach involves smaller local units performing more basic fistula repairs then more complex

fistula repairs either been treated by visiting surgeons (Tanzania, Kenya, Uganda) or being referred to a national or sub-national centre.

- Fistula Repair Camps managed by national mobile teams (for example Pakistan, Eastern Africa, Mogadiscio)

In a very few parts of the world specific “stand alone” fistula centres are being developed or proposed. These not only act as centres of excellence for treatment, particularly for complex cases, and provide rehabilitation but also as training centres for future fistula surgeons. They are often very difficult for women to reach, however, given they are few in number and far from where women with fistula may live. Staff from these centres, and the cured women they have treated, also act as powerful advocates for change by raising awareness of the issues and providing practical solutions. Such is their success that the very few in existence are overwhelmed with requests not only for treatment but also are unable to meet the current demand for training, a demand that will grow once OF programmes develop. If the development of a series of national fistula centres are proposed then attention needs to be given to where they are located.

Other national fistula service providers prefer to base their services within a teaching or larger district hospital where there is easy access to facilities and on site staff training can be regularly undertaken. Such hospitals, if based in large cities, may be distant and perhaps alien to rural women and their families but may be more easily reachable through better transport links. However, in these hospitals there may be pressure on resources unless a separate and dedicated operating list or theatre is available for fistula repair and long term accommodation and rehabilitation services made available.

Whilst the long term aim of any programme should be to ensure that all obstetricians and other trained staff can successfully undertake simple fistula repair within any facility within which they work, supported by other professionals providing a multi-disciplinary team approach to care and rehabilitation, this may take many years to achieve. Once trained, however, it is important that even those surgeons competent to undertake simple repairs have a high enough case load to maintain their skills. In the interim, when planning services, it is important to be realistic as to how and where they may

be best placed within the current health care system. There are however some basic principles that need to be considered and these are discussed in the next paragraph.

2.9 Principles for planning service provision

As with preventative activities the following principles should be adapted to address specific issues relating to an individual country or region's particular problems. The Addis Ababa Fistula Hospital has recently published a paper on their experience of setting up a fistula centre which may provide helpful information for health services planners considering such a facility .

- Initially treatment services should be set up where there is capacity, commitment, leadership and resources.
- Facilities should be within relatively easy reach for the women and her family who may care for her, keeping in mind that these women are poor and live in mainly rural areas. They may need subsidy to travel to the point of care and back to their home. Services provided in capital or other large cities may be more expensive for rural women and their families to reach, live and return home and consideration needs to be given to this potential barrier to care.
- Women undergoing treatment for OF require a holistic approach to their care. The work of the centre should be based on team working where the women, relatives, nurses, physiotherapists, occupational therapists, councillors, surgeons and anaesthetists all work together to maximise her outcome. Training of surgeons and nurses at the same time is recommended to create team spirit and efficient team work.
- The hospital providing fistula treatment should be linked to a centre of excellence for obstetric care and be part of a functioning network of maternity services working in the same geographical area. Ideally women with OF should be referred from maternity wards, immediately after diagnosis of OF is made, to OF treatment centres.
- Women with more complex fistula, or who need further surgery should be referred to a specialist fistula repair centre which is also part of the local maternity services network.

- As a basic principle it should be understood that elective surgery for OF repairs should not be crowded out by emergency operations; either by providing a dedicated operating list or, in larger centres, perhaps a separate operating theatre.
- Ideally all facilities offering treatment need to be able to provide longer-term accommodation and rehabilitation services as well as the special multi-disciplinary expertise, counselling and skills required.
- Each centre should work with communities, to increase awareness and contribute in changing attitudes to attract women living with fistula and to succeed in social-reintegration.
- Each fistula centre should document and evaluate the fistula repairing work and be involved in research activities regarding fistula prevention and treatment.

2.10 Training

As with other parts of the fistula strategy there is both a need to address the immediate problems of training staff able to undertake fistula repair, or provide other essential services, whilst simultaneously developing a sustainable long term programme. These require to be done in parallel and be based on the findings of the local needs assessment.

The term training covers a number of important different issues, all of which will need to be addressed within the national programme. These are:

1. Undergraduate training for all health professionals, social workers and other professionals allied to medicine.
2. Post graduate training for obstetricians, midwives, nurses, surgeons, clinical officers, general practitioners and others who may be caring for pregnant women, women in labour or those who have developed OF.
3. Basic, supervised, surgical training in simple fistula repair for those who will be able to undertake such repairs once competent.
4. Training for nurses, midwives, physiotherapists, counsellors and social workers who will be providing the integrated care required for the management and rehabilitation of women undergoing OF repair.

5. Specialist training for obstetricians or surgeons who, once able to undertake simple repairs, will become “experts” in complex fistula repair, who will be able to manage the most complex cases, act as specialists to whom other surgeons can refer and act as trainers for more junior or inexperienced staff.

2.10.1 Pre-service or undergraduate curricula

The pre-service, or undergraduate, curriculum must include a basic understanding of obstetric fistula, its causes, management and, most importantly, prevention. The programme should also include a wider social and cultural understanding of both the root causes of fistula and its implications for affected women. It should stress the need for all pregnant women to seek skilled care both in the antenatal period and during childbirth. It will also include more clinical issues such as the identification of prolonged or obstructed labour (including the use of the partograph) and the need to refer such women early to an obstetrician.

In countries where the prevalence of obstetric fistula is high, all curricula for trainee midwives, nurses and doctors should include not only theoretical training on OF prevention but also treatment. Midwives and obstetricians should be trained in the clinical prevention of OF (eg the systematic use of the partograph to monitor labour, the use of an indwelling bladder catheter in case of prolonged/obstructed labour etc), counselling for women living with fistula and the importance of seeking family planning and skilled care during their next and subsequent pregnancies.

2.10.2 In service/postgraduate training

Surgeons and others able to perform simple repairs.

A standardised training programme should be developed which should be a core component of the practical post-graduate syllabus for all those who are able to undertake surgery. These may include doctors such as obstetricians and gynaecologists, urologists and general surgeons, depending on each country's capacity and skill mix. At the end of their training the trainees should be competent to undertake a simple fistula repair and to know which cases to refer to more experienced, or specialist, surgeons. This should be a mandatory part of the post-graduate

training and, once assessed as competent in simple repairs, simple fistula repair should become a regular part of their routine work. Developing such programmes will take time but is necessary if the long term aims of reducing the number of women living with untreated fistula is to be met.

Requirements for surgical training

Until such time as the national training programme is fully established, in order to ensure a high quality of repairs, and to prevent unskilled surgeons from causing more physical damage to women, it may be helpful to reward those who have completed a recognised training programme with a suitable national or internationally recognised certificate.

Specific training of fistula surgeons, nurses and other health and social care professionals to care for women with fistulas should ideally take place in a location where fistula are prevalent, the case load is high and the trainer is competent, or where women with fistula have been gathered together for special fistula clinics. Until fistula repair is routinely available in the country, it may be necessary for the trainee to work side-by-side with a visiting expert who comes to their facility, or for the trainee to visit another unit or specialist centre as these types of apprenticeships will ensure access to 'hands-on' experience and the opportunity to observe both simple and complex repairs. Visits to fistula centres will also enable the trainees to see the teamwork required to ensure these women return to a full and active life and an insight into the other medical and psych-social problems these women face.

It is generally agreed that the trainees should, during their initial training period should see, or better yet assist, in around 50 fistula repairs and perform a minimum of 10 satisfactory repairs under supervision. They should not be allowed to practice until certified as competent by their trainer. At the end of this period trainees will be able to identify those simple cases they should be able to manage on their own and those more complex case which require referral to a specialist fistula surgeon. Depending on the case load of the trainers and the training centre this may require an attachment of 4-6 weeks or more. This training can also be achieved by a visiting expert coming to the trainees own facility. It is important that the newly trained surgeons regularly undertake

simple fistula repairs in their hospital after their training. They can be assisted by an experienced surgeon (trainer) for complicated cases and should continue to attend further intensive training workshops or have access to other mechanisms for providing skills updates on a regular basis. A continuous partnership between the trainee and their trainer(s) appears to be of importance in sustaining and gaining further skills over time.

Skill mix and who to train

Fistula services in different countries currently differ in their approach to the profession, speciality and level of training required for those who can perform fistula repair. Clearly training obstetricians and gynaecologists to undertake fistula repair has the advantage that preventive (i.e. managing obstructive labour) and curative activities can be co-located. Trained obstetricians should be available in all emergency referral obstetric centres (those providing caesarean sections) to ensure prompt access to fistula repair. However urologists, general surgeons and general practitioners may have been trained and may be competent in both simple and, occasionally complex, repair.

Until such time a simple fistula repair is a routine part of the post graduate training syllabus for obstetrics and other appropriate doctors, the training of health care professionals to perform fistula repair requires the use of often scarce resources. To maximise the effectiveness of this training it is therefore important to direct these limited resources to committed surgeons and health personnel who are then going to use these skills regularly to benefit women and their families. It may not be appropriate to train professionals in fistula repair who are not practising in areas with a high fistula prevalence or whose facilities do not have the capacity or commitment to providing repairs on a regular basis.

Whichever professional performs fistula repair it is important that they have a sufficiently high case load to maintain their surgical skills. It is widely accepted that the first attempt at fistula repair is likely to be the most successful, as discussed in the chapter on surgical repair, and it is there vital that a fully trained and competent surgeon carry out this operation. Incompetent, ill equipped or deskilled surgeons who do not undertake regular repairs may cause more damage to an existing fistula, making it more

difficult to subsequently repair thus reducing the chance of a successful closure.

Nurses and other health care professionals

All dedicated and motivated nurses and midwives willing to work in special fistula centres or in hospital providing fistula repairs, will also require specific training. This training includes pre-surgery and post-surgery care, psychological support, counselling and communication skills.

To encourage team building and mutual understanding, ideally nurses and others should be trained along side trainee surgeons wherever this service is provided. This may be when trainers are visiting their home facility or by accompanying trainee surgeons to a specific training centre.

Continuing professional development

All health and social care professionals involved in the care of women with fistula should be encouraged to continually develop their knowledge and skills. Responsibility for this lies not just at the individual level, but also for government, employers and professional bodies to ensure there is adequate time devoted to ongoing personal development and the sharing of ideas. Professionals should, working as part of a team, be encouraged to take part in formal audit programmes for the outcome and impact of their work to further improve care to women.

2.10.3 Specialist fistula surgery

Developing a cadre of expert surgeons.

Apart from basic training and enabling more obstetricians and surgeons to undertake simple repairs, each country will also need a number of specialist fistula surgeons able to both operate on more complex cases as well as acting as trainers for expert surgeons. Such surgeons are currently few and far between and tend to work in a number of different types of facility, as described in section 2.8.

The development of specialist centres and the training of trainers

The aim of providing training for complex fistula repair is to enable the development of

- A sustainable in-country specialist centre or set of hospitals able to provide expert care for women with complex requirements, and
- To develop a cadre of future trainers

To develop an appropriately trained workforce in order to implement a successful strategy for the reduction of fistula it is necessary to have an adequate number of experienced fistula surgeons who can train others. Specialist fistula surgeons are not only able to cope with the tertiary referrals for the management of women with complex fistula but also act as trainers for other first level or specialist fistula surgeons. It is generally agreed that a specialist surgeon and trainer should have performed at least 300 fistula repairs before starting to train others and has an ongoing case load of more than 150 fistula per year.

Specialist training centres are very few, with only two in Africa to date: one is the Fistula hospital in Addis Ababa (Ethiopia) and the second is located in Katsina (North Nigeria). One or two more others may be in the process of development. The demand for training already far exceeds the capacity of these centres to train the number of trainers required, or applying to be trained, in the region and additional training centres should be urgently identified and equipped. Many countries are on the way to assessing their need for such trainers. All relevant partners should work together at local and national levels to ensure coordination between professional bodies, educational establishments, local experts and service providers.

Any training centre that is being developed should perform a minimum of 300 fistula repairs per year and be a model centre of excellence for all aspects of care and treatment for OF. Whenever possible a continuum of complete care from the pre-surgery period through to rehabilitation and social reintegration should be provided. Such centres should also be part of the maternity service network to ensure prompt referral and treatment of fistula. These issues have already been described in the earlier section on planning service provision and the check list in that section will be helpful in planning the expansion of such training centres.

If there is insufficient expertise within a country it may be necessary for external experts to contribute to fistula repair services and fistula repair training. This may involve local professionals being sent to be trained in other countries where this type of training capacity exists, or international experts, including those from neighbouring countries, regularly visiting national or sub-

national training institutions.

As part of any national strategy, countries may decide that at least one or more training centre should be established as part of the short to medium term plan.

The use of external expert support

A number of countries are supported by external experts who have, to date, provided a significant proportion of the fistula repair services. This crucial work will need to continue until a viable in-country programme has been established. These experts are not only providing much needed services for local women but are increasingly training local staff in both simple and advanced fistula repair.

2.11 Monitoring and evaluating the national programme

As with any strategy, monitoring and evaluation are vital to determine the level of success of implementation of new policies and initiatives and whether it is necessary to make adjustments and changes. Evaluation plans should be integral to the strategy and should be planned at the beginning of the process with clear arrangements for how they will be performed and with earmarked resources.

Evaluation relies on the introduction of robust data collection systems to allow effective monitoring.

Reproductive health indicators for global monitoring¹¹

- Percentage of births attended by skilled health personnel.

Percentage of births attended by skilled health personnel⁸ (midwives or doctors and nurses skilled in midwifery, excluding trained or untrained traditional birth attendants).

- Number of facilities with functioning basic essential obstetric care per 500.000 population.

Number of facilities with functioning basic essential obstetric care per 500.000 population. (Basic essential obstetric care should include the availability of basic emergency care: parenteral antibiotics, oxytocics, sedative for eclampsia, assisted vaginal delivery (vacuum extraction), manual removal of placenta and removal of retained products (MVA)).

- Number of facilities with functioning comprehensive essential obstetric care per 500.000 population..

Number of facilities with functioning comprehensive essential obstetric care per 500.000 population. (Comprehensive essential obstetric care should include basic essential obstetric care plus comprehensive emergency care: surgery, anaesthesia, and blood transfusion.)

Other indicators for monitoring obstetric care :

- Proportion of women estimated to have complications who are treated in essential obstetric care facilities (basic or comprehensive).

This indicator covers all obstetric complications and can be used for both basic and comprehensive levels of essential obstetric care. It can be refined to address specific complications related to OF such as obstructed labour or ruptured uterus or women who present with OF after delivery. Minimum acceptable level: at least 100% of women estimated to have obstetric complication are treated in Essential obstetric care facilities.

- Caesarean section rate.

Caesarean sections as percentage of all births. Minimum acceptable level: as a proportion of all births in a population, Caesarean sections account for not less than 5% nor more than 15%.

- Case fatality rate (CFR).

The Case fatality rate applies to all complications but can also be used for specific obstetric complication: example number of deaths from obstructed labour divided by the overall number of women admitted with obstructed labour. Minimum level acceptable: the case fatality rate among women with obstetric complications in Essential obstetric care facilities is less than 1%.

Clinical audit and research

Apart from monitoring the impact of the overall strategy it is also crucial to audit the clinical care provided for these women to ensure they receive the best possible repairs, and for the results of these audits to be shared with others. As the chapter on the principles for surgical repair highlights, one of the problems with fistula surgery to date is the lack of robust qualitative and comparative research into a number of key areas including the optimal timing for repair and the types of repair undertaken. Participating in such research should also be included as a key component of the national strategy.

Performance indicators

WHO has produced a list of 17 reproductive health indicators that may be useful for safe motherhood programme monitoring , . Those indicators which may prove useful in helping monitor and evaluate fistula programmes are shown in Box 2.1. Suggestions for additional indicators are listed in Box 2.2.

Box 2.2**Possible specific indicators for monitoring and evaluating fistula prevention and the availability and quality of obstetric care and fistula repair; for any given country or specific area under consideration****Epidemiological**

- Estimated number of women living with OF. i.e. Prevalence.
- Estimated number of new cases of OF per year. i.e. Incidence.
- Estimated rate of OF per 1,000 deliveries.
- Number of women treated for OF per year.
- Estimate of unmet need for fistula repair.

Service delivery

- Number of midwives, nurses and doctors with midwifery skills per 1,000 births
- Number of doctors or mid-level providers able to perform caesarean-section per 1,000 births
- Proportion of births managed with a partograph
- Number of facilities providing simple fistula repair services
- Number of centres providing specialist fistula services
- Number of fistula treatment services which include social reintegration activities.
- Number of surgeons able to undertake simple repairs
- Number of surgeons able to undertake complex repairs

Training

- Number of training facilities (pre service and in service) including OF prevention and treatment as part of the core syllabus
- Number of surgeons undertaking simple fistula repair training per year
- Number of in country surgeons undertaking specialist fistula training (either in country or elsewhere) per year.

Quality of care

- Proportion of women with obstetric fistula who have a successful first repair by each facility. Ideally the closure rate should be 85%, of which 90% should be without incontinence . This success rate can also be disaggregated into different types of fistula (see Surgical chapter)
- Proportion of women who have had two or more unsuccessful repairs
- Percentage of women successfully reintegrated in their society after fistula treatment

Other indicators of clinical and social care should be developed in light of local circumstances

Annex A: Recommendations on training from Niamey meeting

Key recommendations

Consensus on a number of key areas for training in the management of fistula was achieved during the meeting. The below are recommendations based upon the discussions of the Obstetric Fistula Working Group and expert participants at the Niamey meetings, with the recognition that further research, particularly operations research on the different modalities and minimum standards, is needed to validate many of these recommendations and training strategies. As evidence emerges, these recommendations will continue to be reviewed and updated as needed.

Global Workshop Recommendation: Improve the health system capacity in the treatment of obstetric fistula and the management of pregnancy and delivery in order to ensure the effective elimination of obstetric fistula.

- 1- Each country should develop a national training strategy adapted to its local needs, under the leadership of the Ministry of Health. National training strategies should take into consideration the following recommendations:
 - Ensure a minimum of two trainers per country
 - Consider a variety of modalities. Training centres are the preferred model, but on-site training, outreach visits, workshops and various combinations of these modalities, have also been used successfully.²
 - Reflect consensus on minimum standards (see page 8).
 - Promote training in multidisciplinary teams (urologists, gynaecologists, general surgeons, theatre and post-operative nurses, and optionally anaesthetists).
 - Select trainees based on their motivation and ability to immediately apply their skills upon return to their posts.
 - Include a supervision strategy with continuous evaluation of trainee's performance. The suggested model entails a permanent, dynamic partnership between the trainer and the trained providers and regular collection of data and feedback.
 - Ensure that trained personnel will have the right conditions (equipped, functional health facilities; incentives; and other administrative support) to work on their return to the health facilities.
 - Establish links with the University Teaching Hospitals, with the aim of making the training reach diploma level to better motivate providers.
 - Ensure that pre-service curricula for health personnel (doctors, medical officers, midwives, nurses) include proper management of labour, post-partum care, early recognition, referral and post-treatment care.
- 2- Recognizing that needs vary per country, every country should have at least one national reference centre capable of handling simple and complex fistula cases, with at least two trained fistula surgeons to ensure sustainability of services. Depending on prevalence and geographic accessibility, each region of the country should have at least one fistula repair unit capable of repairing simple fistula cases.
- 3- It is recommended to avoid a backlog of simple fistula cases through regular management by trained providers at regional hospitals, while referring complicated cases to the specialists at the national reference centre or waiting for the next visit of an experienced specialist. Peripheral centres should function under the supervision of the national centre, with regular monitoring and evaluation of services.
- 4- A manual with basic guidelines for training in fistula treatment should be developed by FIGO, in partnership with UNFPA, WHO, the International Federation of Urologists and

EngenderHealth, with expert review by the Addis Ababa Fistula Hospital, AMREF and Babbar Ruga Fistula Hospital. The guide should include clinical modules with a standardised classification of types of cases, levels of treatment, different operation techniques, and framework for evaluation of skills, as well as modules on counselling and recommended content (see page 8). Visual training materials should also be considered to supplement the manual.

- 5- WHO with partners should establish a global database to collect data on fistula treatment that can be used by the different centres to improve monitoring and evaluation and make data available for research. At national level, systematic data collection should be ensured to improve services for fistula clients and evaluate the quality of obstetric care.
- 6- UNFPA with partners should further map and analyse regional and global capacities and needs in training, including the following:
 - Collect and analyse data on training plans, capacities and needs from Campaign countries using the questionnaire revised at the meeting;
 - Evaluate potential regional training centres, including their clinical services, for the training of trainers in order to set up regional fistula training centres connected with the various national training and/or repair centres (regional fistula network).
- 7- Guided by community level research, a comprehensive and integrated communication plan should be developed in each country (including counselling, mass communication, etc.), taking into consideration the socio-cultural and religious context. Counselling plans should be approached in a cross-cutting and integrated manner, involving different providers and with targeted messages for fistula patients, their spouses, their family and community members.
- 8- A network of health professionals and programme managers involved in the Campaign to End Fistula should be established, with the aim of organising a meeting to foster South-South cooperation and exchange of ideas among African experts currently involved in fistula elimination.

Suggested Minimum Standards

Below are suggested minimum standards for the training of health professionals in fistula treatment as a guide for the planning and designing of national training strategies. They are preliminary recommendations based upon the expert opinions of trainers, which will need to be validated through further research. The standards are provided with the understanding that training is a continuous process, and that each specific context may require adaptation of these standards in relation to the national situation and the competencies of trainees and trainers.

Minimal qualification required (simple fistula repair):

- ▶ For doctors: 3 years surgical practice
- ▶ For nurses: Any nurse can be trained for any nursing pre-, intra- and post-operative care and anaesthesia if motivated

Minimum duration of training (simple fistula repair):

- ▶ For specialists (surgeons, urologists, gynaecologists): 2-4 weeks
- ▶ For doctors with surgical competencies: 4-6 weeks
- ▶ For a nurse (pre-, intra- and post-operative care): 4 weeks

Minimum number of successfully treated cases required for competence (simple fistula repair):

- ▶ For specialists: 3
- ▶ For doctors: 8-10 (Note: doctors with 3 years of surgical experience and assumes a follow-up supervisory strategy is in place)

Requirements to establish a training centre for treatment of obstetric fistula:

- ▶ Availability of a trainer: A trainer of trainers needs to be a specialist with a minimum of 500 cases treated successfully, including complex cases. A trainer in treatment of simple obstetric fistula should have a minimum of 300 cases treated successfully, including complex cases. Trainers should demonstrate versatility in pelvic surgery as well as the capacity to motivate and transfer skills to trainees.
- ▶ Availability of support personnel
- ▶ Availability of building space

- ▶ Minimum caseload of the structure is 250 cases per year, recognising that this caseload may not be sufficient in some circumstances

Content for training in the treatment of obstetric fistula:

- ▶ Anatomy of the pelvis
- ▶ Pathophysiology of obstetric fistula
- ▶ Specific counselling for obstetric fistula (pre-, intra-, post-operative and upon discharge)
- ▶ Clinical examination of a woman presenting with obstetric fistula
- ▶ Classification of obstetric fistula
- ▶ Early management of obstetric fistula (treatment with a urinary catheter)
- ▶ Pre-operative preparation
- ▶ Anaesthesia for obstetric fistula surgery
- ▶ Surgical materials
- ▶ Operation techniques
- ▶ Intra- and post-operative complications
- ▶ Post-operative care
- ▶ Management of sequelae
- ▶ Establishment and management of a fistula treatment service including collection of clinical information (files, protocols), activity reports, and defining a reference system for treatment of complicated cases
- ▶ Establishment and management of training structure for the treatment of obstetric fistula

Annex B: Recommendations on monitoring and evaluation of programmes from the Niamey meeting (2005)

Appendix C: Draft Results Frameworks

I. Prevention Goal: To reduce the incidence of obstetric fistula

Objectives	Indicators	MOV	Risks/Assumptions
GOAL			
Reduce the incidence of obstetric fistula	Number of new fistula cases	Health system routine monitoring data	The health system integrates fistula data collection
OUTCOME :			
Fistula prevention is improved	Number of national policies, plans and programmes integrating prevention of OF	National policy documents, plans and programmes.	Involvement of decision makers in the Campaign to End Fistula
OUPUTS/STRATEGIES			
<u>Output 1:</u> Increase in deliveries assisted by qualified personnel.	Skilled attendance rate	Routine health system monitoring data	Quality of the national monitoring system
<u>Strategy 1:</u> Improve the financial and geographical accessibility of health centres and the first level.	- % of the population covered by health centres at the first level, according to norms - % of health centres at the first level that offer a minimum package of RH and delivery services	- Health cards - Monitoring, situation analysis surveys	Human resources and finances are adequate
<u>Strategy 2:</u> Improve the quality of services.	Client satisfaction level	Client satisfaction surveys Monitoring of health centres	Involvement of decision makers and motivation of providers
<u>Strategy 3:</u> Improve demand for maternal health services through behaviour change.	- Available communications plan - Level of community awareness of maternal mortality reduction	Communications plan document	
<u>Output 2:</u> Obstetric complications are managed	Satisfactory met need for EmOC	Service registers and activity reports	Quality of the national monitoring system
<u>Strategy 1:</u> Improve the availability of EmOC services	Number of health centres with BeOC and CeOC per 500 000 population	Health cards	Quality of the national monitoring system
<u>Strategy 2:</u> Improve the use of EmOC centres	Number of deliveries assisted in an EmOC facility C-section rate	Service registries, activity reports, monitoring	Quality of the national monitoring system
<u>Strategy 3:</u> Improve the quality of EmOC services	Rate of breastfeeding in comprehensive EmOC centres	Service registries, activity reports, monitoring	Quality of the national monitoring system

Output 3: Increased contraceptive usage	Contraceptive prevalence	DHS	
Strategy 1 : Ensure adequate family planning coverage	Satisfactory met need for family planning	Service registries, activity reports, monitoring	Quality of the national monitoring system
Strategy 2 : Ensure the securing and stockage of contraceptive commodities	<ul style="list-style-type: none"> - Available plan for stockage of contraceptive commodities. - Number of days without a stockout in health centres. 	<ul style="list-style-type: none"> - Plan for stockage - Service registries, activity reports, monitoring 	
Output 4 : Improved favourable political and socio-cultural environment for MMR.	<ul style="list-style-type: none"> - Number of texts and decrees in favour of MMR. - Level of awareness/appropriation of texts and decrees in favour of MMR. - Level of awareness among the population of MMR. 	Legal texts and decrees KAP Surveys	Socio-cultural perceptions of pregnancy and delivery.
Strategy 1: Ensure the availability of information on OF in the framework of MMR among the population.	<ul style="list-style-type: none"> - Integrated communication plan available. - Number of IEC/BCC activities implemented - % of the population informed about the causes and consequences of fistula. 	<ul style="list-style-type: none"> - Communications plan - Activity reports - KAP Surveys 	
Strategy 2 : Increase the legal marriage age	<ul style="list-style-type: none"> - Texts and decrees available in favour of increasing the legal marriage age. - average age at first pregnancy 	<ul style="list-style-type: none"> - Legal texts and decrees - DHS 	Political and legislative involvement

II. Treatment Goal: Reduce the prevalence of obstetric fistula

Objectives/ Strategies	Outcomes/ Outputs	Indicators	MOV	Risks/Assumptions
General Objective		Outcome: All women with Obstetric Fistula have access to high quality treatment services	- Political instability	
Obj 1. To establish sustainable national policies and plans including resource allocation for OF treatment	Sustainable national policy and plan for OF treatment, including resource allocation developed	Validated plan exists with resource allocation	- National ownership - Availability of adequate resources	
Strategies				
1.1 To conduct a national needs assessment	National needs assessment conducted	Need assessment conducted, endorsed and published	Document exists	Quality of data and assessment
1.2 To establish a multi sectoral taskforce to develop and oversee the national plan and mobilize resources	Multisectorial task force created and functioning to develop, oversee and mobilize resources for the national plan	Official notification of the task force by the MOH	Report/ Minutes of first meeting	Political commitment Coordination of the task force Recommendation enforced
1.3 Ensure specific financial mechanisms in place to access treatment		Budget estimated	Budget document with mechanisms for distribution Resources available	
Obj 2. To strengthen health systems to provide accessible high quality OF treatment capacities	Health system provides high quality OF treatment services	-Number of clients treated annually -Proportion of total patients treated annually -Number of successful (fistula closed 85% Fistula closed with continence 90% of the 85%)	Treatment facilities should record this data after 6 months	Quality of records Women don't come back Instructions not followed by the patients
Strategies				
2.1 To establish at least one high quality functional fistula centre per country	At least one high quality fistula treatment centre established and functioning per country	Number of high quality fistula centre providing treatment for all types of fistula with the approved success rate; at least one per country	Centre records and reports MOH	Each centre has a reliable reporting system Flow of data from regional to central level

Section II

**Basic principles for caring for women
undergoing fistula repair**

3

Clinical and surgical principles for the management and repair of obstetric fistula

Background

The guiding principles contained in this short chapter were discussed at a meeting which brought together many experts in fistula surgery from around the world. As with many other aspects of obstetric fistula, funds for research into the optimal methods of repair have been limited. Thus the type of peer reviewed research, case control or randomized clinical trials and systematic reviews that are usually required to underpin international evidence based clinical guidelines are not available and the principles outlined here are based on consensus opinion alone. Over the years, different surgeons have developed their own techniques and protocols, which may vary, and these different approaches have been identified where possible. This chapter is therefore not a textbook on how to undertake fistula repair but aims to summarize the main clinical points and provide a list of further references. Everyone involved in drawing this chapter together stress the urgent need for more formal research in this area, and make this a priority recommendation for all relevant funding organizations.

This chapter should be read in conjunction with the chapters on nursing, physiotherapy and re-integration since caring for these women during their hospital stay requires teamwork, and the development of local services and protocols, between surgeons, nurses, physiotherapists, counselors, nursing aides and other professional staff. The key role that a woman's relatives or friends may be able to play in the team also needs to be recognised.

This chapter covers the principles for the management of women presenting in the following three ways:

- The immediate management of women who have survived prolonged or obstructed labour
- The management of women who present immediately after delivery with an obstetric fistula
- The management of women who present with an established obstetric fistula.

The aims and objectives of fistula surgery

The vast majority of obstetric fistulas can be successfully repaired by the use of appropriate and skilled surgical techniques. The clinical aims of fistula repair surgery are simple:

- ▶ To close the fistula, and
- ▶ To make the woman continent and able to resume a full and active life.

Principles for the immediate care of women who have survived prolonged or obstructed labour.

In order to try to prevent fistula formation, or to encourage very small fistula to close spontaneously it is important that all women who have survived prolonged or obstructed labour, with or without a caesarian section, be treated by the following regime immediately after delivery or as soon as they present to a health care facility:

- An appropriate size (Foley size 16-18) indwelling bladder catheter should be inserted to enable free drainage of urine. Opinions vary as to the length this should remain; in the case of a small healing fistula it may be up to 4-6 weeks, but

if no apparent damage has been shown to have occurred it may be suitable to remove the catheter after 14 days.

- Her perineum and vagina should be cleaned with salty water (Sitz baths), or a solution of mild detergent in water, twice a day.
- She should be encouraged to drink a large volume of fluids, around four to five litres a day.
- Her vagina should be examined as soon as possible, by speculum, and any necrotic tissue gently excised. This should be performed under aseptic conditions and may need to be repeated until her vagina is clean.
- Any intercurrent infection should be treated according to local protocols, as should routine prophylaxis against urinary tract infections, if used.

All maternity units should draw up a protocol for the management of women who have survived prolonged labour based on the above principles. These women can be cared for by any suitably trained staff including obstetricians, urologists, general surgeons, medical officers, clinical officers or midwives and will not require referral for fistula repair unless the above regime fails or if there is any remaining doubt. Should this treatment prove successful, and before she is discharged, the woman, preferably with her husband, should receive the pre-discharge advice given later in this and the nursing chapter, about family planning and contraception. The need deliver future babies in a unit equipped and staffed to undertake emergency caesarean sections should be emphasised as well as the need to seek antenatal care in future pregnancies.

Principles for the management of women who present immediately after delivery with an obstetric fistula.

The spontaneous closure of around 15-20% of simple or small fistula can be achieved by

conservative means, provided these women are treated immediately after, or within a few days of, delivery.

The regime is identical to that previously described for the management of women who have survived a prolonged or obstructed labour except that continuous bladder drainage by catheter should be maintained for a minimum of 4 and up to 6 weeks according to the local protocol. As before, any necrotic tissue should be regularly and gently debrided, if necessary, even if she will eventually require surgery, as fistula surgery should not be performed in the presence of necrotic tissue in the vagina.

Women for whom the above regime proves successful may be discharged home when their vagina is clean and has completely healed. As with other women who have had a fistula repair, before she is discharged she should receive advice about family planning and contraception, the need to seek antenatal care in future pregnancies and to be delivered in a unit equipped and staffed to undertake emergency caesarean sections. It is preferable that this information is also given to her husband and family members.

There is no clear consensus on the optimum timing to undertake fistula surgery in recently delivered women for whom the above measures have failed. Many experienced fistula surgeons prefer to operate as soon as the vagina is clear of necrotic tissues whilst others prefer to wait for 2-3 months after the fistula occurred. This chapter describes the guiding operative principles for either option.

Principles for the management of women who present with an established obstetric fistula requiring repair

The following principles generally apply to both those women for whom conservative treatment immediately after the fistula has formed has failed as well as for women who present with established fistulae which have not received previous medical attention.

Her initial consultation

The chapter on nursing care provides protocols for the management of women when they present to the clinic, including outpatient procedures and the completion of the basic registration card. An example of the registration card used for women attending

^a Prolonged labour has been defined from one exceeding 24 hrs (Baird 1952) to one exceeding 12 hours of established labour, when labour is actively managed, which includes the use of the partograph. (O'Driscoll et al 1993).
Need references..

the Addis Ababa fistula hospital is contained as Annex A to the nursing chapter and can be used for local adaptation. Annex B of the nursing chapter contains an example of a fistula patient record form which can also be adapted for local use. The collection of such background data is not only helpful in managing a woman's own care plan but also for the collection of aggregated statistics that can be used in developing fistula prevention strategies as well as for advocating for or planning future fistula services in the district, region or country. Such data will also provide an insight into the barriers women may encounter whilst trying to access obstetric or midwifery services for safe delivery.

The information contained on the basic registration card can be used to complement the fuller social and medical history required as part of her initial examination. It is her history and the physical examination which are key to successful surgical decision making.

A full medical and social history

This should, as a minimum, include the following:

- Her age, parity and past obstetric history
- A history of any ritual genital cutting or circumcision
- The number and ages of her living children and the gestation and dates of delivery and death for those who were stillborn or who died later
- Her menstrual history following her last pregnancy
- Who cared and assisted her during her last pregnancy and delivery
- The duration of her labour and how it was managed (particularly in relation to the use of traditional herbs or techniques including vaginal or perineal cutting by traditional birth attendants)
- If she knows whether the baby was a vertex, breech or transverse/abnormal lie
- The mode of delivery (caesarean, forceps, ventouse or spontaneous vaginal and if she required an episiotomy, symphysiotomy or destructive vaginal delivery)
- The outcome for the baby (living/ stillbirth/ early or late neonatal death)
- What symptoms she has of urinary and/

or faecal incontinence and for how long she has been aware of these

- At what point after her delivery did she first notice these symptoms
- What, if any, problems she has with her mobility in general and walking in particular
- Her past medical history including any illness or surgery and any allergies of which she is aware
- Who has been caring for her until now and who is able to care for her should she require surgery
- Her marital status and social history including any problems which have arisen as a consequence of her fistula.

Her physical examination

The nursing chapter stresses the importance of preparing women for examination and surgery as many will be frightened and will require reassurance. Each woman's consent should be sought before the examination and it is important that she understands what will happen and why it is being performed. Many, especially the young, may feel more comfortable and secure if they are accompanied throughout the process and a companion or nurse should be provided if at all possible.

The examination should cover both her general medical condition as well as conditions associated with obstetric fistula. The routine medical examination should include checking her vital signs including her pulse, blood pressure, respiration, temperature and noting any indicators of possible malnutrition or anaemia. A gentle abdominal palpation should be performed together with an assessment of her ability to walk unaided and the presence of any limb contractures or foot drop. There are differing opinions as to whether more than a visual inspection of her vulval and perineal areas are necessary. Some surgeons prefer to wait until operation before undertaking a complete vaginal examination as it is only then that the full extent of the fistula can

^b Waaldijk K. *The immediate surgical management of fresh obstetric fistulas with catheter and/or early closure. Int. Journal of Gyn. and Obs.* 1994; 45: 11-15.

be appreciated and this causes less pain and distress. Others perform a preliminary gentle digital and speculum examination if the extent of the fistula is not readily apparent. All have however agreed that the guiding principle should be look before you touch and only touch if really necessary.

The visual inspection should include an assessment of the perineal, vaginal and labial tissues and thighs and check for signs of:

- Urinary / ammonia dermatitis
- Ulceration
- Concurrent infection of the skin or urine
- Faecal soiling
- Genital cutting of the vagina or perineum, either as a result an episiotomy, the attempts of untrained attendants to assist in an obstructed labour or female genital mutilation.

The gentle digital examination, if performed, should note:

- Any concurrent pelvic pathology
- The presence or absence of a uterus
- The presence and severity of any vaginal scarring
- The location and number of fistula
- The approximate size of each fistula
- Any urethral involvement
- The presence of any recto-vaginal fistula, again noting site, size, scarring, anal sphincter involvement, any rectal stricture or circumferential defect.

Some surgeons will compliment this with an inspection of the vagina using a Sims or other speculum, with the woman in the exaggerated left lateral position.

Sometimes bladder calculi can be palpated during a physical examination, but the passage of a small metal catheter or uterine sound though the urethra can aid in their diagnosis although this procedure may be uncomfortable. Some surgeons therefore prefer to wait to do this until the operation.

Basic laboratory tests

Following her examination and prior to surgery a number of basic laboratory tests should be performed. Depending on the availability of facilities and resources she should have stool and urine tests for parasites or infection and renal function tests

if considered appropriate. Blood tests should routinely include a haemoglobin (Hb) count and blood grouping. If facilities are available consideration can be given to screening for parasites and offering a VDRL, Hepatitis B or HIV test with her consent. If there is a clinical suspicion of AIDS this should be discussed with the woman alone, and, if she wishes, pretest counseling should be arranged. Although a positive HIV diagnosis will not influence the treatment options for her fistula, it will enable her to access any local treatment programmes and receive advice and counselling concerning her health and reducing the risk of transmission to her husband and future children.

Explanation, discussion and consent

Once the results of these preliminary investigations are available the treatment options, details of the operation and post-operative period and the possible long-term sequelae should be explained to the woman, and her husband and family where possible. It is important to try to involve her husband or family in these discussions for they are likely to be the decision-makers for her future. Thus explaining that she can most likely be cured and return to an active and normal life, and involving them in the decision making, is likely to increase their support for her after the operation and during future pregnancies.

The woman and her husband/family may need some time or counseling to enable consideration of the various options before a decision can be made. If she agrees to the operation her informed consent for the procedure should be obtained and formally recorded. It is important that the decision and the consent is freely given by the woman herself.

Pre-operative management

The nursing chapter describes the principles for admission to hospital and the supportive care required for women awaiting surgery. It also covers routine pre-operative care prior to surgery, the key principles of which are repeated here although again there is no clear consensus. However each unit will have their own protocol which should cover the following:

- The timing of washing and shaving (if required) of the perineum. Some surgeons prefer to wash and shave the perineum at the onset of surgery, in other units this is undertaken by nursing staff before surgery.

- The use of enemas before the operation. While some surgeons do not use enemas before operations for simple vesico-vaginal fistula (VVF) repair, the majority do as spinal anaesthesia relaxes the anal sphincter with resultant soiling of the operative field. Enemas are recommended for the repair of a recto-vaginal fistula (RVF).
- Some surgeons prefer the women to be “nil by mouth” from midnight before the operation but others encourage a high fluid intake before surgery for those women who will be having their fistula repaired under spinal anaesthesia.
- The optional use of pre-operative sedation such as 10mg midazolam or 100mg phenobarbitone the night before and just prior to her surgery.
- Her pre operative anaesthetic check

Deciding who should operate

Fistula surgery has a reputation of being difficult, however with adequate training and suitable experience competent doctors with surgical expertise should be able to repair simple fistulae. Training issues are discussed in more detail in the relevant chapter of this manual. All staff trained to undertake simple fistula repair need to recognise and work within the limits of their own skills and refer women with more complex fistulae to more experienced expert surgeons in this field when in doubt or if the surgery looks beyond their own competency.

Surgical classification of obstetric fistulae

The degree of complexity of the fistula is crucial to the decision as to whom should operate as there is a decreasing possibility of success with each successive attempt to undertake a repair. A number of classifications have been developed which attempt to gauge the severity of the injury and classify fistula into the simple and more complex, thus assisting in deciding which women will require pre-operative referral to an expert fistula surgeon and those who appear suitable for repair by a suitably trained local surgeon. Two such classifications are given as an Annex to this chapter.

Operative principles

The overriding principle is that the first attempt at repair offers the best chance of success which is why such emphasis is being

placed on deciding the classification of the fistula in order to decide who should operate.

A number of different surgical techniques are employed depending on the preference of the surgeon. None are described here and although references for many of the different techniques are given at the end of this chapter it is stressed none should be attempted to be performed by untrained surgeons.

The following are the basic principles for fistula surgery:

The route of repair

The usual approach for fistula repair is the vaginal route. However the surgeon's own experience, the site of the fistula and the extent of injury determine whether the vaginal, or, less commonly, the abdominal route is chosen.

The operative position

The most commonly used position for the vaginal route is the exaggerated lithotomy position with shoulder supports for comfort, and to help prevent the woman from sliding from the table. The operating table should be tilted in the steep Trendelenburg position so that the surgeon can look down easily into the vagina. The woman's legs should be placed outside the lithotomy poles or padded supports and supported in the stirrups of the poles. A small pillow is placed under her head.

Preventing infection

Strict asepsis should be ensured by using antiseptic wash, sterile drapes and employing an aseptic technique. Some surgeons also routinely use prophylactic antibiotics; others do not. It is, however, common practice in developed countries to give appropriate prophylactic antibiotics to all patients undergoing pelvic surgery at induction of anaesthesia and this principle should be considered followed wherever possible particularly for women undergoing repair of recto-vaginal fistula, who are at higher risk of coliform contamination.

The basic surgical principles for vesico-vaginal fistulae (VVF) can be summarised as follows:

- The fistula should be exposed and the ureters protected
- The bladder should be mobilized to enable tension free closure.

- and wide enough dissection of the bladder and vagina. The bladder and vagina should be closed separately, excluding the mucosa and inverting the bladder. The majority of fistula surgeons use one layer closure for the bladder but some prefer closure in two layers but this may necessitate wider dissection. The vaginal skin/epithelia can be opposed either by minimal suturing to allow for drainage or closed more formally, but in either case haemostasis should be obtained.
- The bladder should be drained with a size 16-18 catheter. Larger sizes may cause urethral irritation and smaller sizes may be bypassed if urine output is high. The types of catheter used varies according to personal preference. Some operators prefer plain catheters, others use Foleys with or without the balloon inflated. The catheter should be held firmly but gently in place by tape on the thigh or sutures at the introitus to keep it in place and avoid pulling on the repair site.

The basic surgical principles complex fistulae can be summarised as follows:

Recto-vaginal fistula (RVF)

The principles of repair of a RVF are similar to those given for VVF except:

- Care should be taken not to cause an inadvertent stricture of the rectum.
- Preoperative bowel preparation should be more thorough than if used for VVF alone. This can be achieved by the use of enemas
- A temporary colostomy may be required for large, high or severely scarred RVF.
- A previous failed repair may also require a colostomy
- In the opinion of many surgeons, RVF repair requires prophylactic antibiotic coverage to prevent intra operative infection although no case-control studies have been undertaken to evaluate this.
- Postoperative women who have had an RVF repair that has not required a colostomy, should remain on a fluid only diet for the first two days and then a low residual diet, but with a high fluid intake for a few more days.

Combined fistula

Combined vesico- and recto-vaginal fistulas (VVF and RVF) should be repaired at the same time, usually commencing with the vesico- vaginal fistula, but circumstances and common sense determines the most practical approach.

Post-operative care

Skilled postoperative care is paramount in determining the success of the fistula repair. More detailed guidelines and principles for post-operative care are given in the nursing chapter as it will be nurses who are mostly responsible for providing such care, but these are also summarized here:

The immediate post operative period

- Her vital signs (BP, pulse and temperature) should be regularly observed and recorded as per the unit protocol (see the nursing chapter)
- She should be observed for excessive blood loss both vaginally and through the catheter.
- Intra-venous fluids should be given until she can take fluids orally as per the unit protocol (see the nursing chapter)
- Her fluid balance should be regularly monitored, both fluid input and output
- She should be kept comfortable with adequate analgesia
- She should be mobilised as soon as possible if she has had a simple repair.

After 24 hours and during the following days:

- She should be encouraged to maintain a high oral fluid to enable her to produce 2-3 litres of urine per 24 hours.
- Her vaginal pack, if used, should be removed within 24-72 hours according to the local protocol.
- Her indwelling catheter to enable free drainage should be retained for 10-14 days.
- It is important to ensure that neither her drainage tube or urinary catheter become kinked, and that the drainage receptacle is always at a lower level than the bladder.
- She should be encouraged to become fully mobilized as soon as possible depending on the type of repair she has received. Women who have had a

simple repair can start to be mobilized within a day of operation; those who have undergone complicated fistula repairs e.g. those requiring a ureteric implant, will need bed rest for up to 7 days after surgery depending on the type of operation and the surgeons own preference. In either event the relevant physiotherapy exercises should be started the day after her operation, as discussed in the chapter on physiotherapy.

- Any non-absorbable sutures should be removed when the tissues are healed
- She should be observed for possible anemia and, if necessary, have a post-operative Hb check.

Possible post-operative complications

Secondary vaginal hemorrhage

This requires immediate attention including assessing the need for resuscitation in which case immediate measures should be implemented. In cases where the bleeding is not arterial a firm vaginal pack should be used. In cases of arterial bleeding the woman should be taken to the operating theatre and the bleeding points identified and ligated. Should bleeding continue other causes should be sought. She will need her Hb levels checked if her bleeding has been severe, and may resulting anaemia treated by iron supplementation.

Catheter blockage

Blockage of a catheter requires immediate attention in order to relieve pressure on the surgical repair site. Further details of who to unblock a catheter are given in the nursing chapter.

Anuria

In case of anuria it is essential to ensure that the catheter is not blocked and the ureters have not been ligated. After ensuring the woman has had sufficient fluid replacement and her catheter is not blocked, or the inflated balloon is not causing ureteric obstruction, if the woman has not passed urine she should be taken back to theatre

and if the ureters have inadvertently been tied off then the sutures must be undone. If the medical officer in charge is not able to do so then the woman should be referred urgently to a specialist. If anuria persists, look for other causes (pre-renal, renal and post renal)

Breakdown of repair

A dye test to check the completeness of the repair should be performed before removal of the catheter. If it is positive the catheter should remain in place and on free drainage for 4 to 6 weeks afterwards to facilitate healing as discussed earlier. In most cases of early breakdown (within the first 5 days) it is unlikely that prolonged catheter drainage will help heal the repair but ones which occur later (after 7-14 days) may possibly do.

Infection

Infections of the repair site or of the urinary tract should be treated with appropriate antibiotics and in accordance with local protocols. Wound infections also require the wound to be re-opened.

Longer term post-operative clinical problems may include:

- Residual incontinence, either due to the breakdown of the repair or the persistence of vesico-vaginal fistula, genuine urinary stress incontinence, detrusor over-activity or mixed incontinence. The chapter on principles for physiotherapy provides treatment strategies for urge and stress incontinence. Cases due to failed repair will require surgical intervention.
- Urethral or vaginal strictures
- A genuinely failed repair
- Dyspareunia
- Haematometra
- Secondary amenorrhoea or infertility
- Bladder stones

This chapter has been seen and commented on by Andrew Browning, Brian Hancock, John Kelly, Tom Rassen, Sister Ann Ward, Joseph Ruminip and others LUC help

Suggested further reading

Arrowsmith SD et al: Obstructed Labour Injury Complex: *Obstet Gynaecol Survey* 1995; 51; 568-574.

11) Blaiwas G, Chancellor M. Complicated stress incontinence, *Seminars in urology* vol. 7, No 2 1989, 103-116

Hamlin E C, Muleta M, Kennedy R. Providing a fistula service. *British Journal of Urology International*. 2002. 89 (supplement. 1) 50-53.

Hilton P, Ward A. Epidemiological and surgical aspects of urogenital fistulae: A review of 25 years experience in South East Nigeria. *International Urogynaecology Journal*. 1998, 9: 189-194.

Hilton P. : Surgical and Obstetric fistula. *Journal of Obstetrics and Gynaecologic Research* vol 30 issue 4 pp 293

Hurt WG : Genitourinary Fistulas. In Stanton S, Monga A, eds: *Clinical Urogynaecology*: 2nd edition Churchill Livingstone 2000. p 247-258.

Kelly J, Kwast B E. Epidemiologic of vesico vaginal fistula - Ethiopia 1993 *Int.Urogynaecology J.*1993, 4: 278-281.

Kelly J, Kwast B E. Obstetric Vesico-Vaginal Fistulas: Evaluation of failed repairs. *Int. Urogynaecology J.*1993, 4: 271-273.

Kelly J. Vesico-vaginal and recto-vaginal fistulae. *Journal of Obstetrics and Gynaecology*. 1998, 18: 249-251.

Kelly J. Urogynaecology in the developing world. In: Stanton S, Monga A, eds: *Clinical Urogynaecology*, 2nd edition. London: Churchill Livingstone; 2000. pg 401-414.

Kelly J. Repair of obstetric fistulae; Review from an overseas perspective. *The Obstetrician & Gynaecologist*, 2002;4:205-11.

Kelly J. Outreach programmes for obstetric fistulae. *Journal of Obstetrics and Gynaecology*. 2004, 24: 117-118.

Raassen T.J.I.P. Vesicovaginal fistulae. *Surgery* 2002; 20:1: 15-18.

Waldijk K. Step-by-step surgery of vesicovaginal fistulas. Edinburgh; Campion Press; 1994.

Waldijk K. The immediate surgical management of fresh obstetric fistulas with catheter and/or early closure. *Int. Journal of Gyn. and Obs.*1994; 45: 11-15.

Waldijk K. Surgical classification of obstetric fistulas. *Int. Journal of Gyn. and Obs.*1995; 49: 161-163.

Wall LL, Arrowsmith S D, Briggs ND, Lassey A, *Urinary Incontinence in the Developing World: The Obstetric Fistula*; Chapter 12. Need publication house and date

Annex C: The classification of obstetric fistula

There are two main classifications that have been drawn up to classify fistulae on the possible degree of difficulty of their repair or as a surgical classification. Both are based on the degree of involvement (or not) of the closing mechanism since this will have consequences for the operative technique and the prognosis of the repair.

Grading of degree of anticipated difficulty of the repair

The first classification classifies fistulas into two groups according to the degree of operative difficulty:

- Good prognosis/simple fistula able to be repaired by surgeons fully trained and competent to undertake uncomplicated fistula repairs
- Uncertain prognosis/ complicated fistula which will require referral to, and repair by, a specialist fistula surgeon

Criteria based on the degree of anticipated difficulty of the repair

Defining criteria	Good prognosis/ Simple	Complicated/ Uncertain
Number of fistula	Single	Multiple
Site	Vesico-vaginal (VVF)	Recto-vaginal (RVF) Mixed VVF/RVF Involvement of cervix
Size (diameter)	<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 of repair

* the complete separation of the urethra from the bladder.

Grading by surgical classification to determine the type of repair that will be required.

This classification, as described by Waaldijk, is used to determine the type of surgical repair that may be required. A detailed explanation can be found in the published literature. In principle the operative technique becomes progressively more

complicated from type 1 to 11Bb. The same principals also apply to the size, from small though to extensive.

^b Waaldijk K. *The immediate surgical management of fresh obstetric fistulas with catheter and/or early closure. Int. Journal of Gyn. and Obs.* 1994; 45: 11-15.

Classification of fistulas according to type of surgery required based on their anatomic/physiologic locationb	
I	Fistulas not involving the closing mechanism
II	Fistulas involving the closing mechanism
	A without (sub)total urethral involvement)
	a Without circumferential defect*
	b With circumferential defect
	B with (sub)total urethral involvement)
	a Without circumferential defect
	b With circumferential defect
III	Miscellaneous eg ureteric and other exceptional fistulae
Subclassification according to size	
Small	<2 cm
Medium	2-3 cm
Large	4-5 cm
Extensive	6 or more cm
* the complete separation of the urethra from the bladder.	

4 Principles for nursing care

The principles outlined in this chapter are based on those kindly provided by the nursing staff of the Addis Ababa Fistula Hospital. It is recognised, however, that different facilities may have less available resources, or their surgeons may adopt clinical different protocols and the guidelines contained here will require local adaptation. Further, this chapter should be read in conjunction with the chapters on the principles for fistula surgery and physiotherapy when designing individual unit local protocols.

Supportive and psychological care

The underlying principle underpinning all aspects of the care provided for women being treated for an obstetric fistula is that they will require supportive and sympathetic care throughout their path through the services provided for them. This starts when they first present at the reception desk of an outpatient clinic through their in-patient stay (pre, intra and post operatively) and up to, and including, their post operative discharge.

Staff privileged to work with women who have recovered from fistula surgery are struck by these women's strength to endure hardship and to manage to get on with an active life. However, at the outset, many women living with an obstetric fistula will have been traumatised by the events surrounding the birth of their baby and subsequent frequent ostracism by husbands, other family member and their community. Some may see themselves as cursed. They may be frightened, wary and depressed. Often their knowledge of a hospital or clinic is that it is just a place of pain, suffering and death. It is therefore important to talk to each woman individually to alleviate any specific fears that she may have and let her know that the staff are present to help her. At all stages touch is very important; a gentle pat on the shoulder, and a hug if appropriate, tells her that she is not untouchable.

Good supportive and empathetic care will help women to adjust to the hospital environment as well as prepare them psychologically for a successful operation and recovery period. Training former fistula patients as nursing aides is an excellent way to provide this psychological care as there is empathy between caregiver and patient, having both gone through the same plight. Providing an opportunity for the patient to talk to a woman who has already undergone the treatment successfully is another good strategy for support.

Women undergoing investigation and treatment for an obstetric fistula will be subject to a number of unfamiliar intimate and uncomfortable examinations and procedures as well as undergoing anaesthesia and a major operation. These are frightening and uncomfortable and women should, ideally, be supported through each step by the reassuring presence and touch of a nurse or nursing aide. Each procedure should be explained to them both beforehand as well as step-by-step through the process. This should include not only informing them of what is being done at each point and why, but what they can expect to feel and how quickly it will pass.

Registration at outpatients

A warm welcome for these women is very important. The role of the registration officer is key, as s/he is the first person the woman or girl will meet. The choice of receptionist should be done with great care as a kind sympathetic person is essential

It is important to document the details of each woman carefully as this not only helps

with developing her own care plan but also provides crucial data for professionals and health care planners to use in helping to advocate for and provide a better service for other women in the future. A special card should be prepared for all women to record where they are from, how far they have travelled, how they arrived at the hospital etc. An example of the card used by the Addis Ababa Fistula hospital is attached as Annex A to this chapter. These should then be presented in order of each woman's arrival at the clinic for the doctor to see.

The outpatient examination

A nurse or assistant should accompany the woman into the examination room and gently show her to a chair near to the examining doctor where a brief medical history is taken. She should, if possible, stay with the woman throughout her examination and the subsequent discussions. The medical history will be followed by a physical examination that may or may not include a pelvic examination depending on the preference of the doctor.

Once the examination is finished, and the summary and drawing of the findings included in her medical notes, she should be informed of the findings. Where possible her relatives should then be called in and her condition and the possible options and outcomes for her treatment explained to them.

Time should then be allowed for both the woman and her relatives to discuss the possible options and ask any further questions. They may then take some time to decide what they want. If she is offered immediate admission to the hospital extra time will be required to say goodbye.

On admission

Ideally the woman should be admitted by a nurse, or nurse-aide, that speaks the same or at least a common language as her to answer any questions she may have, explain what will happen and the procedures of admission. She should be shown where the toilets and showers are, and given a small tour of the hospital so that she can feel more relaxed and similar with her surroundings. If possible she should be introduced to other patients of her own age and ethnic group if they are present. She should be introduced to her carers in order that she has a friendly name and face she can refer to if she is troubled about anything.

If facilities are available, she should have a bath and have her hair checked for lice and washed if necessary. Where possible a hospital nightdress should be provided and her own clothes kept in a secure place to take home once she has been discharged. A blanket, if available, will help keep her warm if the weather is cold. A well-balanced diet should be provided and any intestinal parasites treated. If she is very weak she will require supportive nursing care including ensuring she receives a nutritious diet in a form she can tolerate and that she does not become dehydrated, help with her personal care, including bed baths and ensuring she receives appropriate medical supervision when required.

On admission each woman should be checked for signs of nerve injury in her lower limbs. These should be assessed by examining her gait and noting if she is able to move her toes, ankles, knees and hips in all normal directions. Common presentations include foot drop on one or both sides and, less frequently, weakness of the hip muscles or the quadriceps / hamstring muscle. Such injuries are common but may be missed if the woman has been completely bed-ridden for a few weeks, due to puerperal sepsis or generalized weakness for example. If they are missed contractures can develop very quickly.

The principles of pre and post operative prevention and management of nerve injuries and contractures are described in the chapter on the principles of physiotherapy and should be incorporated into each unit's nursing protocol depending on the availability of specially trained nurses or physiotherapists.

Pre-operative care

Details of the medical examination and basic laboratory investigations are contained in the chapter on the basic principles for surgery contained in this manual.

Diet

A high protein, high calorie diet is essential for all women both prior to and after surgery. The social circumstances of women who lived with fistula for some time may have led to anaemia and malnutrition. Throughout her stay the woman should be encouraged to drink at least three litres of water a day to discourage the prevention of bladder calculi.

Two days before surgery the woman should be given a light diet only but encouraged to maintain a high oral intake of fluids and the day before surgery she should have a fluid only diet (tea, soft drinks and water).

Medication

Medication should be given according to local protocols but may include:

- Iron supplementation if required
- Anti-helminths if needed or if part of the routine protocol for bowel care and preparation
- Pre-operative antibiotic coverage if this forms part of the surgeon's protocol (see the section on principles for surgical care).
- Sedation the night before surgery and the morning of the operation or according to the hospital's regimen (see the section on principles for surgical care).

Bowel care

- Rectal wash outs with warm soapy water should be given until clear water returns.
- For women with a recto-vaginal fistula or a complex fistula some surgeons give castor oil 30cc with plenty of water two days prior to surgery.

Other pre-operative care

- It should be ensured that the woman understands the operation and signs the consent form
- If part of the local protocol, the woman's pubic hair should be shaved before going to theatre
- Her pre-operative vital signs should be checked and recorded.

The nurses role in the operating theatre

Reassurance and support

As already mentioned nurses, or nursing aides, have a vital role to play in offering support and reassurance for women before and during the operation itself. Page: 3

Apart from reassurance and a step-by-step explanation of what is happening during induction of anaesthesia as well as during the operation itself. Using a nursing-aide who speaks the patients' language and who can be with her and answer any questions is helpful although this may

not always possible. She should feel that a nurse is close by at all times and should be reassured by through touch whilst awake. Most women are awake during the repair of a vesico-vaginal fistula as a spinal block using Marcain is normally used. For more extensive surgery general anaesthesia is usually given.

During her operation

Apart from support and reassurance the nurse or aide will:

- help the surgeon or other staff to place the woman gently on the operating table in the preferred position, as described in the section on principles for surgical care. She should be as comfortable as possible and given a small pillow to go under her head.
- Ensure her vital signs are regularly monitored.
- Note and record the number of vaginal packs used and left in situ on a form for this specific purpose.

Post-operative nursing care

Immediate

After her operation the nurse should:

- Ensure the woman's post operative bed is prepared, with the blankets folded back, in order to receive her upon her return from the operating theatre. A sphygmomanometer, stethoscope and an intravenous (IV) drip stand should be ready, as should a vital sign chart with the woman's name, card number and the date clearly marked with the surgeons name at the head of the chart.
- Check the vital signs regularly. Her temperature, pulse, respiration and blood pressure should be checked every 15 minutes for the first hour and then, if stable, every half hour for a further four hours. If she is well and has no signs of shock these may then be done at four-hourly intervals. If there is any cause for concern, or signs of shock, the surgeon must be notified immediately.
- Ensure the surgeons instructions for IV fluids are followed and regularly monitor the woman's fluid input and output and record this on her fluid balance chart.
- Regularly check for bleeding from both the Foley catheter and, if present, the ureteric catheters. The woman's vagina

and the labial Martius graft site, if used, should also be checked for bleeding.

- Make sure the woman is as comfortable as possible and receives analgesia according to the local protocol.

Further details of the immediate and later post-operative management of women treated for an obstetric fistula are contained in the chapter on principles for surgical management.

Later post-operative management (after 24 hours)

Her vital signs should be checked and recorded regularly as dictated the unit protocol or by her surgeon if there have been or may be any problems. Pain medication will be given as directed by either the unit protocol or her individual surgeon.

Fluids

- Initially she will receive intravenous fluids as prescribed by the surgeon.
- Starting on the first day she should be encouraged to drink enough fluid to produce 2-3 litres of urine per 24 hours. This amount prevents ascending urinary tract infections and also prevents blocking of the catheter.
- Her urinary output should be clear and completely colourless and odourless. If not the doctor must be informed.

Diet

All women should be started on a fluid diet the day after operation and encouraged to drink copiously. Usually a woman who has had a VVF repair will commence on a light diet the second day after surgery and a woman who has had an RVF or complex fistula repair will follow the surgeons preferred diet protocol. Women who have had a colostomy can follow the diet of the VVF patient.

Dietary Classification

- Fluid diet: Tea, juice, very thin flour gruel or water
- Light diet: Potato, rice, macaroni, clear soup and /or low fibre bread
- Normal diet: The usual food of the given country.

Post-operative mobilisation, physiotherapy and pelvic floor exercises

The timing and techniques for these are described in detail in the chapter on physiotherapy and should be adapted for

each woman on individual basis according to her needs.

Checking for possible complications

Each woman should be regularly checked to:

- Look for bleeding from both the Foley catheter and, if present, the ureteric catheters. Her vagina and the labial Martius graft site, if used, should also be checked for bleeding. If problems are noted her surgeon should be informed.
- Ensure she has good urinary drainage from the Foley catheter and ureteric catheters as these may block and may require flushing.

Catheter care (ureteric and Foley)

The catheters should empty by free drainage into a kidney dish or other receptacle at the bedside. The patient herself is then able to monitor the state of her urine and note immediately if no urine is coming out or if it smelly, cloudy or insufficient. She is responsible for emptying the dish into a bucket provided at the side of the bed for this purpose. Other methods are drainage into a clear glass male or female urinal. Urinary bags pose problems in that they are staff supervised rather than patient supervised and identifying and resolving any catheter blockages may be delayed. Catheter blockages must also be resolved using aseptic techniques.

Should urinary bags be used well trained nursing staff are needed to follow that these do not block as this will lead to wound break down and recurrence of the obstetric fistula. Regular one hourly checks of each patient's urinary bag to ensure that the urine is flowing, the bags are emptied and the contents are quickly examined for quantity, smell and appearance by the nurse.

Another method used is the 'drink, drip and dry method' where a simple straight clean silicone tube is attached to the Foley catheter, which is then allow to 'drip' into a small bucket with a lid into which a hole has been made to allow the tube through. This allows mobility and is sustainable where urinary bags are not.

Catheters should be removed only with the agreement of the supervising doctor; the section on principles for surgical care describes the basic principles and timescales for this.

Removing the vaginal pack

The woman's vaginal pack should be removed on the first to third post-operative day or as the surgeon may instruct. It should be gently pulled out and if two or more packs have been inserted, a note should be made at the time of insertion so that the carer will know to ensure that the correct number are removed.

Once the pack(s) are removed she will need daily perineal care until she is ambulant when she can do this herself.

Repacking the vagina

Should it be necessary to repack her vagina the following technique is suggested:

Using a sterile vaginal gauze pack and sterile technique carefully separate the labia with gloved hands and gently introduce the pack, coated with Acriflavine emulsion, through the vaginal introitus. Then continue to introduce the gauze until no more will go in using gently pressure only, then cut off the remainder of the gauze.

Perineal toilet and catheter care

After removal of the vaginal pack (and labial pack if used) a scrupulously clean perineal area is essential. This can be achieved by the regular use of Sitz baths, or by daily perineal and catheter care. This may need to be more frequent if the weather is very hot. A trolley with syringes, (10 cc and 50 cc), gauze swabs, gloves and saline should be prepared:

- The woman should be placed on a bedpan and saline drizzled over the outer edge of her labia. The labia should be gently separated with a gloved hand and more saline drizzled over them. The area should be then gently dried, ensuring that all dirt, blood or mucus is removed.
- The catheters should have a gentle wipe around, ensuring that no crust has formed. It is important not to pull the catheters during cleaning.
- The catheters should be flushed with saline, just enough to keep them unblocked. No pressure should be used when undertaking this procedure.

Catheter problems

It is essential that catheters never block or if they do that this is dealt with immediately by gentle and careful flushing. The catheter should immediately be flushed out with

saline (Sodium Chloride 9%) or boric solution [Chlorinated lime 1.25g and boric acid solution (B.P. 1988: Eusol) mixed with 100 mls of purified water] The urinary flow should be checked afterwards and the colour of the urine checked. The woman should also be encouraged to drink. Sometimes the catheter may need to be completely changed.

The labial pressure pad

A labial pressure pad is used if the woman has had a repair using a Martius graft. In general it is removed on the fifth postoperative day. Removal is by using a sterile technique to cut and remove the sutures holding the pressure pad over the labia majorum, from where the fat graft was taken. The area should then be carefully cleaned.

Any problems with a Martius graft are usually due to the development of haematomas. These can be released by removing the suture closest to the haematoma and allowing free drainage. Ice and analgesia may help relieve the discomfort.

Removal of sutures

Non-absorbable sutures should be removed, using an aseptic technique, when the tissues are healed and the surgeon is content to do so. The timing of this will vary according to each woman's own circumstances and the preference of her individual surgeon.

Self-catheterization

On occasions, if resources are available, some women will have to do a self-catheterization. In such circumstances they should be taught:

- Cleanliness is of utmost importance.
- How to use a mirror in order to visualize the perineum and the urinary meatus.
- By using her left hand to open the labia she may use her right hand to insert the catheter. Initially some local anaesthetic gel (if available otherwise just use lubricant) may be used but with time she will become accustomed to catheterize herself without.
- How to care for her catheter. A semi-permanent catheter can be used several times and should be washed then boiled for 20 minutes and kept wrapped in a clean cloth until the next use. A disposable one should be destroyed and buried after use.

Pre-discharge health education

Prior to discharge the woman, and if present, her partner, should receive basic health and nutritional education to ensure she maintains her overall general health. Further, she and her partner should receive full advice on family planning, contraception (with supplies if available) and the management of any subsequent pregnancies. She should also be put in touch with any organisations local to her home which can offer support and advice. The principles for social reintegration are discussed in the relevant chapter of this manual and should be adopted if required, depending on the women's particular circumstances.

Sexual intercourse

She should be advised not have intercourse for three months to allow for complete healing to take place and ideally not to try to become pregnant for six months to a year following this period. This should also be explained to her partner if possible. Once intercourse has resumed this should be gentle, and with consideration for the woman.

Future pregnancies and the importance of antenatal care

Women, and their partners, should be advised of the importance of having adequate antenatal care from a trained

health care professional in subsequent pregnancies. Further, that she must deliver in a hospital equipped to undertake caesarean sections as this may be necessary. If she lives far away for such a hospital she should wait near the hospital before delivery in the event she goes into labour and cannot easily reach the facility.

The take-home card

Each woman should be given a card to take home with her, which details her history, a diagram of the injury and a summary of the operation undertaken to repair it. Thereafter any time she attends for maternity care she can present this card so that those caring for will be able to take necessary precautions on her behalf to avoid further injuries in childbirth.

The Addis Ababa Fistula hospital has also provided the recipes for the emulsions, tinctures and solutions commonly used in the care of these women shown in Annex C.

NB The annexes to be tidied up in very final draft

Annex D: Patient Card

Date _____

Name _____

Age _____

Who came with the patient? _____

Does she have in any Addis Ababa friend or relative please record address and nearest telephone here? _____

What is Doctor's name that sent her here? _____

What is Doctor's Address? _____

Has she got a letter from this Doctor? _____

What did the Doctor say in his letter? _____

When was her last baby born? _____

Did she lose control of her urine then? _____ And faeces also? _____

Was that her first labour? _____ Was the baby stillborn? _____

Did her husband leave her? _____ Who gave her food after that? _____

Where is her Province? _____ What is the name of her village? _____

What is the name of the nearest large town to her village? _____

What ROAD leads from that town to Addis Ababa? _____

Was baby's head or legs born first? _____ How many days was she in labour? _____

How many days before she could walk? _____

Did a cured fistula tell her to come to this Hospital? _____

Who told her to come to Addis Ababa? _____ How did she travel? _____

How many hours walking? _____ How many hours on donkey or mule? _____

How many hours by bus? _____ What did bus cost? _____

What happened when she got off bus in Addis Ababa? _____

How did she travel from the bus station to the Fistula Hospital? _____

How many days has she been in the Hospital City? _____ Where did she stay? _____

Who gave her money for her journey? _____

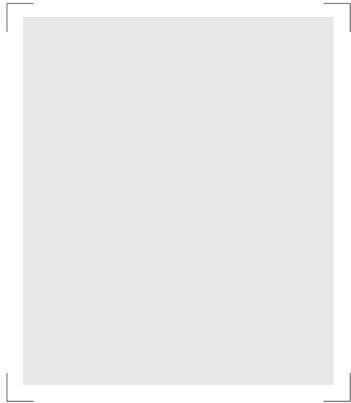
What other Hospital has she been in? _____

How many babies has she had? _____ How many are alive? _____

Her Height _____ Her Weight _____

O/E

Photograph Drawing



Present Management _____

Operation Date _____

Operation Summary

Outcome of surgery: _____

Stress Incontinence: _____

Blood Group _____

Transfusion _____

Was she given clothes to go home? _____

And Transport Money ? _____

5

Principles for pre and post-operative physiotherapy

This chapter has been written by Lesley Cochrane, visiting physiotherapist to the Addis Ababa Fistula Hospital.

General principles

Physiotherapy for women who have a fistula repair is important to enable them to regain as full and as active a life as possible after surgery. This includes improving bladder and bowel control and regaining mobility if they have general muscle weakness or have sustained injury to the nerves of their lower legs.

If at all possible a physiotherapist with the relevant skills and experience in women's health should be able to work with these women. If this is not possible at least one member of the nursing staff should have the opportunity to learn simple physiotherapy techniques from a qualified physiotherapist.

The objectives of physiotherapy for women with an obstetric fistula

These are to ensure each woman:

- Achieves optimum physical fitness:
 - pre-operatively until she is fit for surgery
 - post-operatively during bed rest and then until she can walk to the best of her ability.
- Understands how her pelvic floor muscles and bladder work and how she can help achieve control over her bladder and bowel after surgery.

On admission

Each woman should be physically assessed to check for:

- *Mobility*
 - Can she walk unaided?
 - Does she have a foot drop on either or both sides?
 - Can she stand up from sitting without help?
 - Can she get up from lying down without help?
- *Joint contractures*
 - Does she have any limitation of movement in her hips, knees or ankles?
- *Muscle weakness*
 - Can she move all her joints without help?
- Pain and numbness
 - Does she have any numb or painful areas in her legs or feet?

Physiotherapy for mobilisation and general health

Pre-operative physiotherapy

For all women, particularly those likely to be on bed rest after surgery, regular exercising beforehand is important to help promote good circulation and to maintain muscle strength. The general exercises given in this chapter should be taught and started as soon as the woman is admitted. Pelvic floor exercises can also be started at this

stage but it is important that she recognises that after her operation, particularly whilst her catheter is still in place, gentle squeezes only are advised.

Specific principles for the pre-operative management of women who have nerve damage, muscle weakness and other physical problems are given in the appropriate section in this chapter.

Post-operative physiotherapy

Until fully mobilised it is important for the woman to undertake the general exercises described in this chapter. However, she should be encouraged to mobilise as soon as possible by:

Sitting up with her legs over the side of the bed learning to balance in the sitting position. She should then be helped to stand with support from a nurse or aide or holding onto something secure for balance. Transferring her weight from one foot to the other in the standing position helps to build up strength and balance eventually leading to walking with the help of nursing staff and then by herself or with sticks or crutches if necessary.

Once up and about she can then participate in the more general post operative exercises.

If the woman has problems with limb contractures, foot drop or nerve damage, the additional exercises for these, which she will have started in her pre-operative period, should be continued throughout her period of rehabilitation.

Pelvic floor exercises and the management of urinary incontinence are described in a separate section at the end of this chapter but can be explained during this time and the patient encouraged to carry out gentle squeezes only while the catheter is in situ.

Exercises – general principles

- The exercises described in this chapter should be done at least three times a day.
- The number of times an exercise is repeated will vary according to the ability of the individual woman. As she becomes stronger the number of repetitions may be increased. As a starting point it is suggested each exercise be repeated 5 times (RX5) for each side if appropriate. If more may be easily achieved this is indicated in the text by X10 or X20 for example but this is only a rough guide.

- If she feels pain while exercising she should stop.
- Normal breathing should be encouraged while exercising as holding her breath puts strain on the pelvic floor.

General pre and postoperative exercises for mobility and health, particularly whilst on bed rest

Firstly lying on her back, with her knees bent and feet on the bed, the woman should be shown how to:

1. place one hand on her abdomen and slowly breathe in, letting the abdomen rise up under her hand. She should then slowly breathe out, letting her abdomen sink down. RX5

2. keep her knees together and gently rock them from side to side, using small movements only. RX10.

3. tighten her lower abdominal muscles and lift her buttocks up off the bed (as though to have a bedpan put in place), hold the position for 5 seconds then slowly lower back to the bed. RX5

Then, lying on her back, with her legs straight:

4. bend and stretch her feet up and down from the ankles. RX20.

5. rotate her feet first one way then the other. RX20.

6. bend one knee up to chest then straighten: repeating with the other leg. RX10.

7. tighten her thigh muscles, feeling knees straighten, then release. RX10.

8. straighten one leg and lift it a short distance off the bed, lowering it down slowly and then repeating with the other leg. RX10.

9. squeeze her buttocks tight and count to 5 then release. RX10.

Ongoing general pre and post-operative exercises to improve fitness and mobility

Each woman should be encouraged to continue to work on strengthening and stretching exercises for her own specific problems.

Working with other women in groups using any equipment such as balls and music encouraged by staff can result in effective and enjoyable exercise sessions. Traditional dancing can also be incorporated into exercise classes.

Many different functional exercises can be developed from the following:

- Walking forwards/backwards/side-ways/on the toes
- Standing to throw and catch a ball/bounce/kick a ball
- Balancing on one leg
- Standing on wobble boards
- Sitting and lifting balls or other objects using the feet.

Crutches and walking sticks are helpful for mobility in the early period and if women are having a lot of pain in their feet, shoes may help. A simple 'foot up splint' which fits around the ankle and attaches to the front of the shoe may make walking easier for the woman with a foot drop.

The management of women with lower limb nerve injuries and the prevention of further limb contractures

For any woman with joint contractures or nerve injuries the following principles of management should be followed, both before and after surgery:

- She should be encouraged to move by herself as much as possible at all times
- She should be correctly positioned in her bed to avoid or reduce contractures and maintain the functional positions for her paralysed limbs.
- She should undertake a programme of active exercises to strengthen any weakened muscles, with assistance and walking aids as required
- Any tight soft tissue in her legs should be gently stretched.

Any woman on pre or post-operative bed rest should be encouraged to undertake the general physiotherapy exercises suitable for women on bed rest given in this chapter. She should also move herself around the bed as much as she can, with help only when required. She should be mobilised as soon as possible.

Management of contractures of the hip and knee

A woman with severe contractures should be referred for an orthopaedic opinion if at all possible. The following general principles apply:

Positioning her in bed

- Lying on her side she should have her lower knee slightly bent and the

top leg as straight as possible supported by a pillow.

- lying on her back (with a pillow under her thigh if necessary to give support)
- She should be helped to change her position regularly.

Passive movements

Nursing staff can encourage mobility by passively moving her hips and knees by the following exercises. None should be forced and each repeated 5 times:

- Whilst lying on her side
 1. support her top leg under her thigh and lower leg: gently bend her knee towards the chest and then straighten the leg and taking it back as far as it will go without causing pain.
- Whilst lying on her back
 2. support her leg under the lower thigh and lower leg: bend her knee towards her chest and straighten.
 3. With the non affected leg lying slightly out to the side– support the other leg under the thigh and lower leg : take this leg gently a little way out towards the side of the bed and then back across towards the other leg.
 4. Place one hand on top of the affected thigh and the other on top of the lower leg: gently roll the leg inwards and outwards

Management of contractures of the ankle and foot drop

In addition to the other general or specific physiotherapy techniques appropriate for the individual woman, the additional following principles also apply to women who have ankle contractures or foot drop:

- The sole of her affected foot should be supported by sandbags to maintain a functional position of 90 degrees dorsiflexion.
- Passive exercises, each repeated 5 times:
 1. The nurse or physiotherapist places one hand on the top of the affected foot and the other on the sole of the foot:
The foot is moved gently up and down, then

The foot is turned inwards and outwards

2. The woman can be given a piece of material or bandage or a piece of stretchy, wide, rubber band. She takes one end in each hand and passes it under her foot. Keeping her knee straight she then pulls gently up until she feels a stretch at the back of her calf muscle. She should hold this position and count to 30 and then release.

Exercises for the pelvic floor and achieving bladder control

Physiotherapy for women who have had a fistula repair is not just about enabling women to mobilise quickly and safely, and to help address other physical issues such as nerve damage or limb contractures. The other essential component is to enable women to regain control over their pelvic floor muscles, their bladder and bowel and to resume a normal life.

Learning about the pelvic floor

Learning about the importance of, and techniques for, regular pelvic floor exercises to help with post-operative bladder and bowel control should be started as soon as the woman is admitted for operation. By the time she is discharged, every woman should understand:

- The importance of undertaking regular pelvic floor exercises to help with bladder and bowel control and that these can be done at any time, in any place, and that no-one will know she is doing them.
- Where her pelvic floor muscles are, and how to exercise them, and
- How to protect her pelvic floor from the effects of increased intra abdominal pressure during physical activities and how she can protect herself from strain.

Learning about her pelvic floor is the first start in this process. Diagrams and models are helpful in helping her understand where the muscles are placed in relation to her bladder, vagina and rectum.

The pelvis is a bowl shaped formation of bones. The base of this bowl is formed by a hammock of muscles known as the pelvic floor muscles. These muscles help to control the bladder and bowel as well as giving support to all the pelvic organs.

The Women's Dignity Project has produced the cartoon drawing shown in Box 1 to help with this.

The pelvic floor exercise is described as squeezing and lifting inside as though trying to stop the flow of urine or prevent wind coming out of the back passage. Nowadays women are discouraged from actually stopping and starting the flow of urine as it is thought this can cause other problems. It is difficult to know if a woman is doing a pelvic floor contraction correctly without doing a vaginal assessment. This may not always be possible in which case the assessment may be done visually. In either case she should be reassured and treated with sensitivity and an explanation given of what she is going to be asked to do and how it will feel:

- She should lie on her back with her feet on the bed, with her knees bent and slightly apart. She should be asked to squeeze her pelvic floor and lift up inside without holding her breath. On observation there may be visible tightening and drawing in of the vagina and the anus and the perineal body.
- If there is bulging downwards of the perineum this indicates that the woman is pushing down instead of pulling up. This should be explained to the woman and she should be asked to try again.
- If there is no visible contraction it may help to place a finger on the perineal body and ask the woman to tighten and lift away from the finger.

If appropriate, the woman can be taught how to tighten the muscles during a vaginal examination when she is asked to squeeze the examining finger and lift up inside the pelvis. Vaginal examination enables a more accurate assessment of the strength of the contraction and endurance of the muscles, but usually this is done by professionals specialising in this area.

The pelvic floor exercises

The general principles apply equally to this group of exercises, namely:

- They should be done at least three times a day; just before meals can be an easy time to remember
- The number of times an exercise is repeated will vary according to the ability of the individual woman. As she becomes stronger the number of repetitions may be increased. As a starting point it is sug-

gested each exercise be repeated 5 times.

- If she feels pain while exercising she should stop.
- Normal breathing should be encouraged while exercising – holding her breath puts strain on the pelvic floor.

Two types of pelvic floor squeezes should be taught:

1. Squeeze and lift up the muscles inside the pelvis as though trying to stop the flow of urine or prevent wind escaping from the back passage and hold for up to 5 seconds and release. Rest for 5 seconds. Repeat X5.
2. Squeeze as tightly as possible and then release. Repeat X5.

These exercises should be done very gently during the immediate post-operative period when the bladder catheter is still in place.

This set of exercises can be done at any time and in any position. It is good to use different positions for each session such as – lying, sitting, standing, walking or just while carrying out normal activities.

Progression of pelvic floor exercises

It will take time for women to learn to do these exercises and some will find them difficult if they have very weak and damaged muscles. Each woman should be encouraged to work within her own capability - increasing the length of time she holds the squeeze and the number of repetitions as the muscle strength improves.

Once the woman can do one set of exercises, she should be encouraged to progress to doing another set after a brief rest. Eventually she could be doing both types in a number of positions at each session.

Avoiding undue stress

Women should be taught to tighten the pelvic floor before any activity involving effort such as coughing, lifting, bending, pushing or pulling. This will help to counteract the internal downward pressure caused by the exertion.

Incontinence after surgery

After surgery some women may have problems with incontinence, which will appear as though the operation may have been unsuccessful. Overcoming her incontinence is therefore as important as treating her fistula.

If the woman leaks constantly a first step is to try to reduce the intake of fluid to about 2 litres a day, bearing in mind the principles of maintaining a high post-operative oral intake described in both the chapters on nursing and surgical repair. She may also feel there is no point in trying to void normally as there is nothing in her bladder. Alternatively she may have urgency and be voiding very frequently. Although this may be due to various mechanical factors, it is important to ensure that the woman is trying to follow a normal pattern of bladder behaviour.

The main causes of incontinence tend to fall into the following categories:

- Stress incontinence – the woman leaks on exertion such as coughing, walking or lifting
- Urge incontinence - the woman suddenly has an overwhelming urge to pass urine and leaks
- A combination of both stress and urge incontinence
- Overflow incontinence resulting from retention of urine

Identifying the cause

The problem of urge incontinence is often combined with stress incontinence, therefore the following principles should (also*) be included not only for the assessment of urge incontinence but for stress incontinence as well:

- A description to be given by the woman of when she leaks
- Her urine should be checked for infection
- Her volume of fluid intake and output should be measured for three days
- The number of voids and leaks should be recorded
- The observation of a pelvic floor contraction as described in the pelvic floor section

The urine input and output frequency and volume chart

If possible, this should be recorded over a three-day period. A simple chart can be drawn up with four columns to record:

- The time
- The number and volume of all drinks taken

- Volume of urine passed each time the bladder is emptied
- Any leakage of urine

The management of incontinence

The management principles for both urge and stress incontinence are broadly similar, and in many cases the woman is suffering from a combination of both.

- Avoiding stress on the pelvic floor and bladder. Women should be taught to tighten the pelvic floor before any activity involving effort such as coughing, lifting, bending, pushing or pulling. This will help to counteract the internal downward pressure caused by the exertion.
- A simple bladder re-education programme should be introduced. This is also necessary for women who may only appear to have stress incontinence but who also complain of frequency and urgency.
- Regular pelvic floor exercises should be encouraged.
- The support and encouragement from all staff is important
- Working in a group with other women with the same problem can be helpful

The bladder re-education programme

The aim is to stretch the bladder to hold sufficient urine, without discomfort or leaking, to enable the woman to resume a normal lifestyle. Eventually some women may be able to wait for up to three hours before having pass urine. The method is as follows:

- A regular pattern of drinking and passing urine should be agreed with the woman, based on the results from the frequency volume chart. The time between passing urine should be noted and she should be made aware that she is going to try and increase this length of time between voiding urine.
- To begin with she should try to pass urine every hour. If she finds this impossible the timescale can be reduced to an achievable time e.g. 45 minutes. Staff will need to help her establish this time and be on hand to tell the woman when she can go to pass urine. Sometimes other women who are able to tell the time can help.

- She should be encouraged to wait for at least this length of time between passing urine throughout the day even if she is desperate to go to the toilet. Sitting down can help as can distraction such as singing, counting or talking to other women. When she is able to wait the agreed time, the length of time should be increased.
- This process should continue until the woman is able to wait for a reasonable length of time without leaking

Group support

It can be very disheartening for women to suffer from incontinence after surgery. Getting women with similar problems together to teach them pelvic floor exercises, to explain bladder function and encourage bladder re-education can be very effective.

Staff support

Practical help from staff in helping women comply with the frequency volume chart initially and then encouraging them to keep to the agreed times for passing urine is very important for this treatment to be successful. As in all aspects of the care of the woman having fistula surgery, such support is vital.

Suggested further reading

Porter P. Tidy's Physiotherapy: Stuart Porter: London: Butterworth Heinemann 2003

ISBN 0-7506 3211 9

Hollis M. Practical Exercise Therapy. London: Blackwell Science. 1999. ISBN 0-632-04973-1

6

Principles for the social reintegration and rehabilitation of women who have had an obstetric fistula repair

Background

Committed doctors and nurses in countries where fistula exists have worked for decades to provide girls and women with repairs. Whilst there have been significant achievements in making treatment more accessible, the long-term needs of these women for emotional, psychological and economic support after the initial repair of their fistula have received little attention to date. These women may also face problems reintegrating into their local communities, who may shun them or regard them as unclean or cursed. In many cases, economic hardship occurs because of the increasing poverty girls and women with fistula face as a result of their limited income earning capacity.

Those reintegration interventions that currently exist generally include the provision of new clothes, training in basic literacy and crafts, and occasionally funds for transport home and small cash payments. Strategies need to be developed to provide women with the emotional, psychological and economic support they need. These interventions should be based, first and foremost, on the realities of girls and women living with fistula after surgery so they receive meaningful help to return to a life of dignity.

The limitations of current information on reintegration strategies

As with other aspects of obstetric fistula, little information is available on successful reintegration strategies. There is also a paucity of experience on which to draw given the limited resources allocated to fistula programs and the scarcity of people working with these girls and women on their long-term needs.

The centres and hospitals that offer fistula repair typically carry an enormous caseload and have only limited resources to meet the overwhelming demand for care. The staff have minimal time to gather information from women on their psycho-social needs and to then develop and implement successful reintegration programs. Such interventions are likely to require specially trained staff whose time is solely allocated to these efforts—a rare commodity in health facilities in resource-poor settings.

An additional constraint to collecting data is the significant time and expense required in gathering information from women once they have left the facility. Women may travel up to 1,000 kilometers to seek repair. As such, once healed, they return to far-off villages in remote regions making follow-up impossible.

Lastly, the taboos surrounding fistula may make it very difficult for many girls and women who are not healed to return home and thus for follow-up information to be gathered. They may have been forced to flee their villages when they got the fistula, and even when they are healed people may be reluctant to welcome them back.

Using facility based data

While data from hospitals can be useful, it generally only gives information on girls and women before their repair and not their experiences on returning home afterwards. The exception may be in those cases where women come for follow up examinations or explicit measures are taken to find women post-repair.

In interpreting social information from girls and women who have succeeded in reaching a facility for a repair, it is important to remember that these women may well be better-off than many living with fistula. They have managed to obtain the

necessary financial and personal resources to get to a hospital, which in and of itself is a major achievement given the poverty and isolation confronting many women living with fistula. On the other hand, it is possible that girls and women who arrive at a hospital may have more physical and/or social problems that leads them to seek help in the fist place.

Information based on anecdotal reports of those working with many patients suggest the following:

- Women who have a successful repair and are no longer leaking are likely to be able to reintegrate themselves back home. In the experience of providers and advocates in Nigeria, Ethiopia and Tanzania, totally cured women can and do reintegrate back into their community and are able to carry on with life, including remarrying and having further pregnancies.
- In the experience of one facility in Tanzania women who come for post-operative follow up over the long term tend to be those with more chronic problems such as severe stress incontinence. Women who have a successful fistula repair but who continue to leak due to incontinence (which can be as problematic for the woman as the actual fistula) tend to find it difficult to successfully reintegrate since they are still leaking. Many of these women may continue in much the same situation as before their repair, supported by friends or relatives but not re-marrying. This is especially the case if there is also severe vaginal stenosis.

While it appears that successful repair may well lead to a smooth transition/reintegration home, further research is needed to identify specific challenges to women's quality of life and the degree to which they are accepted back. At the very least, many girls and women are extraordinarily poor. Women with fistula typically face extreme vulnerability both economically and socially resulting from their precarious living circumstances and the costs associated with finding a repair.

Principles for reintegration programmes

Programme design: all women with fistula are not the same

Girls and women with fistula may share a number of common experiences but are

also diverse in many respects. As such, reintegration strategies need to address the different situations in which women and girls may find themselves. For example, the varying need for family and social support, livelihood and income generation and education and training.

In addition, women's experience of reintegration may be impacted significantly by their experience of living with a fistula prior to the repair. The degree of isolation, stigmatization, etc. she experienced while living with her fistula could well affect her situation after her repair even if she is dry. Possible variables include if she had leaked faeces as well as urine, how long she lived with the fistula, if her child survived or died, if she has other children, if she has a source of income and if she is married or has a supportive family.

If the initial disruption experienced by the woman is low (e.g. her husband is supportive and she has other children) then she may continue in her normal life. On the other hand, the future is less clear if a woman is divorced, has lost employment, is back living with her relatives, has no future child-bearing capacity, has no normal vagina for intercourse or has stress incontinence and is still leaking.

The differing experiences of girls and women living with fistulae or after repair need further evaluation in order to inform reintegration efforts as well as a range of other interventions to support them.

Skills training for income generation

Equipping women who have undergone fistula repair with self-sustaining skills can strengthen their capacity to care for themselves in the future and promotes their overall well being. Activities such as literacy workshops for basic reading and writing, as well as skills to make clothes or handicrafts may enable women to reclaim their lives and return to their communities with pride and independence. If possible, a small loan or grant should be offered to the women to help them start a trade or establish a small economic base for themselves.

The key challenge is to train girls and women with a skill that can actually produce some income for them. Crafts, sewing, basket making, etc. are often already in over-supply and may have few market outlets. Thought and effort is needed to link the crafts and other products produced by these women to actual and realistic markets

in order for the work to be economically productive.

Counseling

Women who live or have lived with an obstetric fistula have typically endured severe physical, emotional and psychological distress if not trauma. Surgical repair alone, while going a long way in helping women reclaim a normal lifestyle, is probably not enough to address the impacts of living with fistula or post fistula repair.

At the least, basic counseling for all fistula women should include information on what a fistula is and how they sustained the injury, future risk factors and how to prevent it from occurring again including the use of family planning as well as good obstetric care. In many communities, especially in rural areas, obstetric fistulas are seen as part of the process of giving birth or in some cases as a curse from God. Very little is understood or known by community members about the risk factors and causes associated with obstetric fistula.

Individual discussions with a social worker or trained nurse should be offered to women to give them the opportunity to talk about what they have been through and to ask questions about their health and fistula. They should also be advised about how to enter into a dialogue with family members about what they have experienced and how a successful fistula repair enables her to return to a full family and community life.

It is also often true that meeting other fistula patients at the hospital is one of the greatest supports and counseling tools available. Girls and women with fistula often feel they are the only person in the world with a hated condition; the personal support they feel by meeting other fistula patients is a powerful experience for them and can be used as a basis for personal counseling.

Family reintegration

Providing assistance for reconciliation and reintegration is important to ensure that these women are able to successfully return to their communities. This may include, if possible, providing a nurse to escort the woman home and help explain to the family and community the causes of fistula (including that it is not the woman's fault or due to a curse) and how to prevent fistulae in future. Putting the woman in contact with a local woman's support group within or near her community may be another way

of facilitating an initial network of friends from which the women can develop a solid foundation for her future.

The wider community

Education

Community seminars will educate both men and women about the importance of seeking skilled antenatal care and attendance at delivery. Such seminars can also include a discussion of the risk factors associated with obstetric fistulae and how they can be prevented in future. Facilitating community awareness is also crucial to enable the provision of a supportive community for women who develop or are living with an obstetric fistula or those who return to their communities after surgery.

Advocacy

In the long run women who are successfully reintegrated into their communities will be the strongest advocates for the prevention and management of fistula. They can help inform the community about fistula repairs, refer others for treatment, advocate for delayed marriage and for appropriate antenatal care and skilled attendance at birth. It is important, however, to have realistic expectations for what former patients can achieve as they will return to the same socio-economic and cultural conditions that led to their fistula at the outset. It is also their decision alone whether or not to be involved in advocacy activities, as this should not be a decision imposed on them.

Cured patients may be able to educate others about the causes of fistula and dispel myths and rumors. In Nigeria for example, many people believe that women develop fistula because they offended the gods when they were younger or during pregnancy. It is also attributed to women who were promiscuous during their pregnancy. In parts of East Africa, women with prolonged labor may be suspected to have committed adultery; sometimes they are beaten during the birth process so they will "confess" their supposed infidelity and the name of the man with whom they allegedly had sex.

Financing reintegration

The costs of implementing reintegration programs must be considered. In some cases the funds may be minimal but crucial to the girl or woman's ability to return home and re-start her life. These funds would include travel costs home, and a small amount of

money to start an income generation project.

Facilities or organizations supporting patients should consider developing criteria for allocating reintegration support including to whom it will be given (which type of need/woman); how the funds/support will be distributed and if and how they be will be accounted for. This becomes particularly difficult in circumstances (typical to areas where fistula occurs) where there are many girls and women without fistula who are equally as poor, and in need.

In order for skills-training to be rewarding for the patient and provide her with an income, the products of her labor need to be marketable and profitable. An alternative would be to devise income-generating projects that are tied to the on-going economic activities of the woman's home area so as to leverage the woman's activity to greatest net gain.

Lastly, it is possible that funding for these types of activities will be difficult to raise from donors, as is money in general for the poor and marginalised to undertake income-generating activities.

Where assistance is offered, the success of reintegration and rehabilitation is very high. While the numbers vary, between 50% to up to 90% of women are successfully accepted back into their communities and resume as close to a normal life style as can be hoped for. The UNFPA reports

that 'after a successful intervention, 90 per cent of women are accepted back in their communities' (www.unfpa.org). Gwynth: what is this based on? It suggests that without assistance women do not reintegrate, which is not necessarily true. I would change this to something about assistance may well help women reintegrate...can help them...but not to imply that without specific interventions they will not make it.

Example 2:

The Dambata Rehabilitation Centre

This centre has been created and supported by the Foundation for Women's Health and Development in Northern Nigeria (FORWARD). It offers accommodation for the women for up to a year and provides another example of a successful training program. Within the centre's facilities literacy classes and training in trades such as knitting, sewing or soap-making are offered. The centre also provides the women, once trained, with a little money to buy the supplies they need to get started once they leave.

During their stay the women also receive 'psychological counselling and tend to the centre's vegetable garden and livestock...the idea is to help them re-discover a normal life and overcome their traumas.^{2,3}

Example 1:

The Addis Ababa Fistula Hospital

In Ethiopia the Hamlin Fistula Centre has been offering corrective surgery to women with obstetric fistula for over 15 years. There staff found that a growing number of women could not return to their homes after the surgery because of having been ostracised and chased away by their families. The centre has therefore developed a technical training programme in order to help these women become self-reliant and self-sufficient. They are currently building a hostel for the women who receive surgery and have no home to which to return. If this is the "Village of Joy" – then it is for women with incurable fistulas...may want to check this with Ruth Kennedy.

This chapter has been written by Maggie Bangser, Yvonne Wettstein and Meryl Nicol

References