

# W30: Complex Genital Tract Fistulas: Improving outcomes through a multi-disciplinary approach

Workshop Chair: Sohier Elneil, United Kingdom 21 October 2014 14:00 - 18:00

Start	End	Торіс	Speakers
14:00	14:20	Background to obstetric fistula in the developing	Sohier Elneil
		world (including aetiology and prevention principles)	
14:20	14:50	Vesico-vaginal fistula: presentation in the developing	<ul> <li>Sherif Mourad</li> </ul>
		world including anatomy and classification (with	
		Professor Hassan Shaker)	
14:50	15:20	Complications post fistula repair	Christopher Payne
15:20	15:30	Questions	All
15:30	16:00	Break	None
16:00	16:25	Assessment and urodynamics in post fistula repair	Sohier Elneil
		patients (with Dr Ahmed Safaan)	
16:25	16:50	Physiotherapy in the management of incontinence in	Gill Brook
		post-fistula repair patients	
16:50	17:20	Reconstructive surgery for persistent urinary	Serigne Gueye
		incontinence in post fistula repair patients: The	
		African Experience	
17:20	17:45	Managing OAB in post fistula repair patients in	Sherif Mourad
		under-resourced settings	
17:45	18:00	Discussion	All

## Aims of course/workshop

The aim of this workshop is to look at bladder and pelvic floor dysfunction that arises after fistulas occur, and the consequence of surgical repair. It will provide guidance on how to manage the complications using appropriate investigations and individualizing care. A review of the anatomy and changes in bladder and pelvic floor function will also be undertaken, as well as introducing conservative management and strategies for long term prevention of complications and obstetric fistula in general.

#### Workshop 30

#### Complex Genital Tract Fistula: Improving Outcomes through a Multi-disciplinary Approach

#### **Chairperson: Professor Serigne Gueye**

#### Introduction

The complications that arise after fistula surgery have been well documented, but the strategies for managing them remain poorly defined. A structured approach for providing post-surgical repair care is needed, as well as raising awareness about the role of conservative supportive management and preventative strategies. This workshop will cover all these issues and will try to develop a dialogue between surgeons from all over the world who work in this field.

#### Aims and Objectives

The aim of this workshop is to look at bladder and pelvic floor dysfunction that arises after fistulas are surgically repaired. It will provide guidance on how to manage the complications using appropriate investigations and individualizing care. A review of the anatomy and changes in bladder and pelvic floor function will also be undertaken, as well as introducing conservative management and strategies for long term prevention of complications and obstetric fistula in general.

#### Objectives:

• To determine the types of complications encountered and their incidence from centres of excellence throughout the developing world

• To review the anatomy and function of the continence mechanism and the pelvic floor in the fistula patient

• To develop strategies for investigations and remedial surgery/treatment in the fistula patient with complex pathology and complications.

# Background to obstetric fistula in the developing world (including aetiology and prevention principles)

#### Sohier Elneil

Genital tract fistula is a problem commonly encountered in the developing world that affects young women during pregnancy and the labour process, resulting in debilitating urinary and/or faecal incontinence. Historically many women suffered this predicament in Europe and the United States of America, until the middle of the last century. However, with social, economic and health development this problem all but disappeared in the developed world but still poses a major problem in Africa and Asia. The figures are startling, it is believed that for every woman that dies in labour, at least 20 lives are destroyed by terrible injuries sustained during obstructed labour. Using the 1:20 ratio, it is estimated that there are up to 2 or 3 million cases of obstetric fistula, still awaiting treatment, but the numbers have never been confirmed. This may be a conservative estimate by all accounts.

The main aetiology of fistulas in the developing world is 'unrelieved' obstructed labour. In an ideal situation, with adequate health facilities and regular pregnancy monitoring, the likelihood of obstructed labour is minimised. Other obstetric factors include accidental surgical injury at caesarean section, destructive vaginal procedures, difficult forceps deliveries and crude attempts at induced abortion<sup>1</sup>. Traditional procedures commonly employed during pregnancy and labour in some cultures also result in fistula. Examples include female genital mutilation (FGM), 'Gishiri' and 'Angurya' cuts. Fistulas may also be a consequence of gynaecological malignancy, pelvic radiotherapy and radical pelvic surgery. There is very little literature available on the consequences of radical surgery or adjuvant therapy and fistula formation, but it thought to run at 2%.

The factors which potentiate problems in this group include:

a) *Poverty and gender discrimination,* specifically within the family, result in undernourishment and poor physical development, particularly of girls. In communities where early marriage is the norm many girls become pregnant in their early teens before the pelvis is fully developed, hence increasing their risk of maternal morbidity and mortality. b) *Lack of education,* coupled with low status and powerlessness of young wives, lack of education invariably results in poor uptake of antenatal services. It is not uncommon for young women to be discouraged from uptake of such services either by their own timidity or by members of their family. High-risk pregnancies are not therefore identified in time.

c) *Culture, traditions or poverty* - A high percentage (87%) of rural childbirth takes place at home. Problems occur when complications arise and there is an absence of attendants adequately qualified to identify these complications and/or seek medical attention in good time.

d) *Access to services.* Where there is adequate information and information on the need for adequate medical attention during pregnancy and childbirth, many women in rural areas do not have access to medical services. This is often due to factors such as poor availability of the primary health care, lack of obstetric care, physical isolation or lack of transport. Where MCH (Maternal and Child Health) services are not free, many women lack funds to pay for medical care, particularly expensive procedures such as Caesarean sections.

By dealing with these problems, obstetric fistula can be prevented. It is logical to assume that social and economic development of 'at risk' girls/women long before they become pregnant, can prevent the problem.

# <u>Vesico-vaginal fistula: presentation in the developing world (Including Anatomy and</u> <u>Classification)</u>

#### **Professor Sherif Mourad**

Women with fistula present usually three weeks after traumatic childbirth has ensued. They are usually leaking urine and faeces freely, but the time they get to a health facility – sometimes a decade after their symptoms have commenced. They can present with a 'simple mid=vaginal wall fistula (no more than 3cm across)', or they can present with a missing urethra, contracted bladder and terrible contractures, which is an altogether more complex situation. To understand the complexity of urogenital tract fistulas, one needs to first comprehend the intricate anatomy of the pelvic floor. The pelvic floor is made up of the

pelvic diaphragm, the urogenital diaphragm (present over the anterior pelvic outlet below the pelvic diaphragm) and the perineal body. The pelvic diaphragm is made up of the levator ani (made up of the pubococcygeus and iliococcygeus muscles) and coccygeus muscles that are attached to the inner surface of the pelvis. With their corresponding muscles from the opposite side, the diaphragm is thus constituted. The inner border forms the margin of the levator (urogenital) hiatus, through which passes the urethra, vagina, and ano-rectum. All these muscles are innervated primarily from the third and fourth sacral nerve roots via the pudendal nerve. Attached to the perineal body, a pyramidal fibromuscular structure between the anus and vagina, are the rectum, part of the vagina, perineal muscles, and the anal sphincter. It is during childbirth that the perineal body distends and then recoils. This elasticity is critical to maintaining intact organs and an intact pelvic floor. The close proximity of all these structures to each other, and the complex interaction between them, makes them particularly prone to damage during obstructed labour, a significant aetiological factor of urogenital tract fistulas. In essence, failure of efficient elasticity means these structures are more liable to damage.

As already stated obstetric fistulas arise as a consequence of prolonged obstructed labour that occurs as a result of cephalo/foeto-pelvic disproportion. The presenting part of the foetus becomes lodged in the pelvis, thus compressing all the genital tract tissues and the pelvic floor between two bony plates of the sacrum and the pubic bones. This in turn occludes the blood supply to the affected tissues, which then slough off to create the abnormal communication between the vagina and the bladder and/or rectum, leading to a fistula (Figure 1). Cephalo/foeto-pelvic disproportion is due either to an underdeveloped pelvis (e.g. teenagers), reduced pelvic proportions (e.g. due to disease or injury), abnormal foetal presentation or foetal macrosomia. In all cases of obstructed labour, timely access to emergency caesarean delivery is known to help prevent the formation of a fistula, but unfortunately it is not readily available in all circumstances. Indeed, the lack of access to caesarean delivery is known to be directly linked to the poverty level, with the poor having substantially less access to care. Unsurprisingly, women living in rural areas are thus more prone to fistulas than those who live in urban areas.

latrogenic injury at the time of delivery, as a consequence of a laparotomy, caesarean section, or the use of forceps, is also known to be associated with urogenital tract fistulas. There is little doubt that fistulas that develop in these circumstances are dependent on the operators experience and training and the nature of the medical facility. Furthermore, it is well documented in the literature that there is a lack of medically trained staff and nurses in the developing world, where urogenital tract fistulas are predominantly present. This compounds the problem as many facilities depend on para-medical staff to provide a complex and difficult service. Other causes have been mentioned above.

In essence, there are numerous causes for urogenital fistula formation but the main aetiology remains obstructed labour, in the developing world, and iatrogenic surgical trauma in developed countries.



Figure 1: The foetal head is forced into the pelvis, compressing the bladder, urethra, and other soft tissues between the foetal head and the pelvic bones. This leads to tissue

ischemia and then tissue necrosis, with the eventual formation of a fistula. The red areas show the possible sites of a vesico-vaginal/cervical/uterine fistula (adapted from Elkins 1994).

#### **Complications post fistula repair**

#### **Professor Christopher Payne**

The main treatment for all types of fistulas remains surgery which is carried out under meticulous circumstances. The success of the repair is not only dependant on good surgery, but also on excellent nursing care and prevention of complications [8[9-11]. However, the number of capable and dedicated surgeons remains a major stumbling block in the management of these patients, as well as a lack of consensus on fistula classification, which affects the appropriate treatment of patients, prognostic evaluation and literature reporting; working in isolation and variable care practices; and little or no evidence based medicine in decision making. In addition, training in fistula surgery is often patchy, inadequate and unfocussed. But most importantly, there is no way to assess trainees or determine their suitability. As a consequence, outcomes for some patients have been very poor indeed.

Patients with genital tract fistulas are usually in a difficult and miserable social and personal situation. They need a multi-disciplinary holistic approach to manage their problem, including urologists, gynaecologists, colo-rectal surgeons, physiotherapists, nurses, continence advisers, nutritionists and many more ancillary health workers such as social workers and occupational therapists. As in all surgical cases, a good history is essential to exclude any underlying chronic medical co-morbidity states such as anaemia, malaria or tuberculosis and to exclude any pre-existing urinary symptoms prior to development of the fistula, such as stress urinary or urge incontinence. A careful examination is necessary to assess the fistula with a view to planning the surgical procedure including the possibility of ureteric reimplantation.

The surgery undertaken usually adheres to all the important standards of any surgery, good vision, good access, good light, good technique and good nursing. The surgery can be carried

out using several surgical approaches such as the vaginal and abdominal route, as well as different techniques, such as laparoscopic and even robotic surgery. Both vaginal and abdominal approaches have their merits and demerits.

In most developing countries the accepted maxim is to carry out the vast majority of surgical repairs using the vaginal route because, this can be done under regional anaesthesia with minimal disturbance to bowel function allowing a quicker return to normality. Conversely, an abdominal approach needs a separate anaesthetist and specialized equipment and is therefore, more difficult to set-up in a peripheral rural hospital. However, it has the advantage that the bladder can be widely mobilized, the ureters can be easily reimplanted, and omentum could be interposed between vagina and bladder.

Complications of Surgical Repair Immediate postoperative complications include secondary haemorrhage, anuria due to ureteric injury, sepsis, blocked catheters, or breakdown of repair. More long-term complications include vaginal strictures with associated dyspareunia, haematometra, secondary amenorrhoea, and infertility, failure of repair and rarely bladder outlet obstruction and vesical calculi. When the catheter is removed following extensive VVF surgery, incontinence can still be a problem in about 10. However, this is often not a failed repair but a failing continence mechanism, due to the original insult or surgical procedure itself, resulting in stress incontinence. In others, where the continence mechanism is intact, incontinence may be the result of a reduced bladder capacity leading to urge incontinence. Rarely both conditions may coexist resulting in mixed incontinence. Fistula complications are at the extreme end of the Urogynaecology/Female urology spectrum of conditions, and may therefore provide us with a great deal of clinical and scientific information. This may help us better understand what happens when the continence mechanism and the pelvic floor is so badly damaged. This can only serve to improve our knowledge of the pelvic floor, and may therefore, impact on our understanding of modern day Urogynaecology and Female Urology. Standard treatments for the complications outlined above can be instituted including behavioural therapy, physiotherapy, pharmacotherapy, and continence mechanism surgery. However, they are not always successful. The question is 'why not?' Perhaps the marked anatomical re-configuration, in association with sepsis, delayed surgery and other medical co-morbidities may comprise the response of these patients to current

therapies available. This may leave many patients with limited options such as repeated complex surgery, urinary diversion and stomas.

#### Assessment and urodynamics in post fistula repair patients (with Dr Ahmed Safaan)

The role of urodynamics in post-fistula continence management is yet to be fully elucidated. The need for it though has become increasingly sought, as women with continence issues post primary surgery now seek further medical help.

The main issues regarding access to care, training in urodynamics and their application in under-resourced settings will be fully discussed in the workshop.

#### Physiotherapy in the management of incontinence in post-fistula repair patients

#### Gill Brook

Please see attached document

# Reconstructive surgery for persistent urinary incontinence in post fistula repair patients: The African Experience

#### **Professor Serigne Gueye**

Ancient reports on urinary incontinence testify that obstetric fistula as a debilitating complication of obstructed labour existed since the history of human kind and tragic is that it still incapacitates mothers and young girls in a distressing way.

Fistula complications are at the extreme end of the Urogynaecology spectrum of conditions, and may therefore provide us with a great deal of clinical and scientific information. This may help us better understand what happens when the continence mechanism and the pelvic floor is so badly damaged. This can only serve to improve our knowledge of the pelvic floor, and may therefore, impact on our understanding of modern day Urogynaecology and Female Urology. In these specialised institutions, where complex vaginal and abdominal restorative surgery is carried out, the new approaches to modern day practice can be developed.

Different techniques have been tried to overcome the challenge of the damaged urethra and the scarred vagina. These include the use of the well vascularized fat graft (a bulbocavernosus fat pad) into the surgical site, said to be the most advantageous in wound healing and assumed to minimize postoperative urinary incontinence (6); the use of vaginal release surgery to the vaginal side wall to increase the vaginal demensions, the use of different techniques to prevent urinary incontinence. For example, the use of a length of fibrous tissue or fat to suspend the mid- urethra, the use of surrounding tissue, such as the pubococcugeus sling, to improve vaginal closure and prevent incontinence (5) and when the urethra is badly damaged, neo-urethral reconstruction from bladder flaps, skin, and para urethral fibrous connective tissues are used to suspend the urethra.

Other techniques that were developed over time for the intractable persistent fistula, such as bladder augmentation and urinary diversion surgery, are now practised by urological surgeons undertaking the care of patients with intractable detrusor overactivity, bladder tumours or prostatic disease. The same factors that affect the fistula bladder are those taken into account when performing surgery on the non-fistula patient. These include size of the bladder, the location of the damage, the mobility of the tissue, as well as the general health of the patient. The same complications occur in both groups, and improving the treatment of one group is bound to benefit the other. Access to post-diversion care and support is the biggest challenge and limitation to all patients undergoing this complexity of surgery, and decisions are to perform diversions are never entered into lightly.

Vaginal stenosis is often the case in severely injured women, but is also seen in women who have undergone radical vulval and vaginal surgery and/or radiotherapy. In both groups, it can be very difficult to put the smallest finger into the vagina and even if you could, excising stony hard scar tissue with blade might be required to obtain access to the bladder, vaginal or ano-rectal defect. In such conditions where there is no healthy vaginal tissue to cover the operated bladder site, success is often unlikely. Flaps from perineal and or labial skin are rarely enough to keep severely stenosed vagina open. In fistula surgery, developing access techniques is of paramount importance and the success rates in achieving fistula closure and preventing further stenosis can be variable. But the use of flaps, oestrogen cream and vaginal dilators that have been used on fistula patients surgery have all been helpful in getting significantly better outcomes in the extensive radical vulvectomy patients too.

The last two decades in the care of fistula patients has shown a growth in the provision of supportive therapies. These have included physiotherapy, pharmacotherapy, occupational therapy, and psychological and social support. All these modalities of treatment were initially believed to be of lesser importance than surgery in contributing to better clinical outcomes. But, over time it has become clear that there is direct benefit to the patient when a holistic approach is applied. In essence, 'fixing' the fistula is the first step in the recovery of normal life, but each patient must be able to walk (physiotherapy aids the restoration of this function in patients with flexure contractures), to work (development of skills that can be used to generate income) and to fit back into her society. Hence, every new service in countries all over the developing world has taken this on board fully and these therapies are available in Ethiopia, Sudan and Northern Nigeria, to mention a few. Interestingly, the fact that these therapies can be applied to the most damaged of patients, and result in a positive outcome can only mean that in lesser damage to the pelvic floor there is great merit in pursuing these options first before embarking on surgery, should it be possible.

Obstetric fistula remains a totally preventable condition, and hence, prevention of obstetric fistula is critical; universal access to emergency obstetric service should be the goal while helping those who endure by providing them with holistic care which includes nutritional, psychological, physical, medical and social support.

# Managing OAB in post fistula repair patients in under-resourced settings (with Professor Hassan Shaker)

The International Continence Society (ICS) derived a consensus symptomatic definition of overactive bladder as urinary urgency, with or without urge incontinence, usually with frequency and nocturia. These symptom combinations are suggestive of urodynamically demonstrable detrusor overactivity. The aetiology of OAB falls into two broad categories: neurogenic and non-neurogenic. It is not easy to confirm the aetiology of OAB in patients post fistula surgery as they are likely to have a combination of non-neurogenic and neurogenic basis to their bladder dysfunction. Overactive bladder or detrusor overactivity, per say, is a very common condition, affecting an estimated 50 to 100 million people worldwide. It is prevalent in women, with more than 90% of women with overactive bladder having no recognizable pathology. Several risk factors have been recognized for overactive bladder syndrome and incontinence including age, diabetes, Caucasian race, and hormone replacement therapy. The gold standard for diagnosing detrusor overactivity is multichannel cystometry, although single channel cystometry may be used. It is characterized by involuntary detrusor contractions during the filling phase.

A variety of interventions are available for the treatment of the overactive bladder syndrome. These include behavioural interventions such as reduction in the intake of caffeine and fluid restriction, pelvic floor electrical stimulation, electromagnetic stimulation, and pharmacotherapy, namely oral anti-cholinergics and anti-muscarinics. Despite the development of new antimuscarinic agents, many patients do not tolerate or fail to respond to oral therapy. In those who do not tolerate oral medication, because of side effects such as dry mouth, delivery systems have recently become available. These include intravesical instillation of anticholinergics such as oxybutynin and atropine which can achieve cholinergic blockade without producing systemic side effects. Dermal preparations of oxybutynin have also been shown to be better tolerated. Intravesical local anaesthetics such as lidocaine and bupivacaine block the conduction of unmyelinated C fibers and when administered into the bladder, lead to an increase in functional bladder capacity. Intravesical capsaicin and resiniferatoxin also affect afferent innervation by blocking C-fibre afferents, leading to decreased bladder contractility and increased bladder capacity. Intravesical instillation therapy can provide an alternative treatment for the management of overactive bladder

However, the most significant of the bladder treatments in recent times has been the use of Botulinum toxin (BTX), a neurotoxin produced by the gram-positive, rod-shaped anaerobic bacterium Clostridium botulinum. It was first isolated in 1897 by Belgian scientist Professor Pierre Emile van Ermengem. Since then, BTX has been used to treat a number of different neuromuscular disorders. It is thought that BTX acts by blocking the release of acetylcholine at the neuromuscular junction. As a result of this chemo-denervation, a temporary flaccid paralysis ensues. Different medical disciplines have taken advantage of this temporary paralysis to treat muscular hypercontraction. BTX therefore lends itself well to a role in urology and gynaecology. BTX has been injected directly into the detrusor muscle in patients with OAB/ DO and preliminary studies have shown that BTX increases bladder capacity, decreases urinary frequency and decreases uncontrolled bladder contractility for between 6 to 12 months. BTX has been used successfully to treat both neurogenic and non-neurogenic detrusor overactivity, detrusor-sphincter dyssynergia, motor and sensory urge, and chronic pain syndromes

Where pharmacotherapy, intravesical instillations, and injections fail there are the possibilities of using neuromodulation or operative bladder augmentation. Both of these treatments have associated complications which may be life constraining. Indeed with certain bladder augmentation surgery, such as clam ileo-cystoplasty, the complications may even be life threatening as this procedure is associated with malignancy of the bladder mucosa abutting onto the imported loop of bowel.

In under-resourced settings, the investigation of the patient and the therapy offered depends on what is available at the time. Thus, there are limitations of access to investigations and access to more novel treatments. In most settings a form of anti-cholinergic medication is usually present. It is as well to remember, though, that in any therapy for overactive bladder symptoms, or indeed any form of urinary incontinence, expectations play a pivotal role in success or failure, and communication between the healthcare provider and the patient is essential for setting and achieving treatment goals.

#### Take Home Message

Complex genital tract fistula, as a consequence of obstetric trauma, is wholly preventable. In patients in whom initial surgery has failed, repeat surgery can be very difficult to perform. Thus, it is critical that such surgery is approached carefully after extensive investigations have been undertaken to make a diagnosis.

Patient expectations should be managed and potential outcomes discussed before interventions are undertaken. Where possible, a multi-disciplinary approach should be undertaken.







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# Pelvic floor physiotherapy for female genito-urinary dysfunction

"The review of trials found that pelvic floor muscle training ... helps women cure and improve stress urinary incontinence in particular, and all types of incontinence"

Dumoulin et al. (2014) Cochrane Collaboration

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# Pelvic floor physiotherapy for female genito-urinary dysfunction

"One-to-one pelvic floor muscle training for prolapse is effective for improvement of prolapse symptoms"

Hagen et al. (2013)

1 Patients First





1 Patients First



#### Pre-operative physiotherapy (1)

Hamlin Addis Ababa Fistula Hospital

- Pelvic floor muscles (PFM)
  - explanation & education
  - assessment (observation, digital exam)
  - PFM exercises
  - documentation
  - compliance (monitoring on ward)

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Bradford Teaching Hospitals MHS

#### Pre-operative physiotherapy (2)

Castille et al. (2014)

- group education
- individual assessment (2-3 sessions)
- biofeedback
- hypopressive exercise
- posters

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Bradford Teaching Hospitals NHS

#### Método Hipopresivo M. Caufriez

"... postures and movements that achieve a reduction of pressure in the thoracic, abdominal and pelvic cavities"

- improved sexual function
- solve/prevent urinary incontinence
- solve/prevent pelvic organ prolapse

http://www.metodohipopresivo.com/

No added benefit over pelvic floor muscle exercises alone

Resende et al. (2012); Bø & Herbert (2013)

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Bradford Teaching Hospitals		
Follow up		
3, 6 and 12 months - local community		
Castille et al. (2014)		
6 months – main hospital or outreach centre		
Hamlin Addis Ababa Fistula Hospital		
" PFMT with extra sessions was effective"		
Imamura et al. (2010)		
1 Patients First Together, putting patients first		

Bradford Teaching Hospitals				
Biofeedback				
PFMT plus biofeedback effective				
Imamura et al. (2010)				
manometric				
surface EMG				
<ul> <li>vaginal probe / electrode</li> </ul>				
- equipment				
- accessories				
- vaginal stenosis, scarring, closure				
Together, putting patients First				













#### **Recommended service**

- Pre-operative pelvic floor muscle assessment and exercise advice for all women
- Early post-operative exercises and advice for symptomatic / all women
- Long term follow-up and physiotherapy for women with persistent urinary incontinence
- Other roles for physiotherapists ......

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Resende APM, Stüpp L, Bernardes BT et al. (2012) Can hypopressive exercises provide additional benefits to pelvic floor muscle training in women with pelvic organ prolapse? <i>Neurourology &amp; Urodynamics</i> 31: 121- 125
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# Physiotherapy in the management of incontinence in post fistula repair patients

Gill Brook MCSP MSc Women's Health & Pelvic Floor Physiotherapist Bradford, UK

**ICS Fistula Workshop** 

Rio de Janeiro 2014

No conflicts of interest

#### Affiliations

- ICS Fistula Committee
- International Organization of Physical Therapists in Women's Health
- Hamlin Fistula Ethiopia
- Worldwide Fistula Fund

#### Objectives – an understanding of ...

- Research & empirical evidence
- General urogynaecological population versus women following obstetric fistula repair
- Pelvic floor muscle training
- Adjunct treatments
- Persistent urinary incontinence
- Physiotherapy service









# Pelvic floor physiotherapy for female genito-urinary dysfunction

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Hagen et al. (2013)

# **Obstetric fistula – pelvic floor**

Muscle & fascial damage

Hancock (2009)

"Abnormal levator function and anatomy in patients with vesicovaginal fistula is not uncommon but no more than in unselected urogynecologic patients in the developed world"

Dietz et al. (2012)

### **Continence – other factors**

- size of fistula (circumferential)
- position of fistula (urethra)
- small bladder capacity
- vaginal scarring
- requires >1 repair
- recto-vaginal fistula

Goh et al. (2008); Nardos et al. (2009)

#### Impact of a programme of physiotherapy and health education on the outcome of obstetric fistula surgery

- Benin
- 211 women (99 + 112)
- outcome of surgery repair & continence
- "... the probability of postoperative stress incontinence was considerably higher for patients in the control group ... (P<0.001)"
- Successful repair 68.8% (physio) v 57.6% (control)
   Castille et al. (2014)

#### Pre-operative physiotherapy (1)

Hamlin Addis Ababa Fistula Hospital

- Pelvic floor muscles (PFM)
  - explanation & education
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  - compliance (monitoring on ward)

#### **Pre-operative physiotherapy (2)**

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"... postures and movements that achieve a reduction of pressure in the thoracic, abdominal and pelvic cavities"

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#### Post-operative physiotherapy

When to start pelvic floor muscle exercises (PFME)?

- catheter in situ?
- after removal of catheter?
- delay starting PFME?

#### Pelvic floor muscle exercises

5 second squeeze, 10 second rest for 10 minutes twice per day

Castille et al. (2014)

Miller et al. (2008)

Individualised programme based on PFM assessment. 3-5 times per day

Hamlin Addis Ababa Fistula Hospital, based on Laycock & Jerwood (2001)

## Pelvic floor muscle exercises

"... to date, the optimal PFM training regimen for achieving continence remains unknown..."

Dumoulin et al. (2011)

#### Advice

- fluid intake quantity & quality
- bowel management
- "The Knack"
- activities of daily living
- bladder training
  - bladder chart
    - pieces of paper

#### Follow up

3, 6 and 12 months - local community Castille et al. (2014)

6 months – main hospital or outreach centre Hamlin Addis Ababa Fistula Hospital

"... PFMT with extra sessions was effective" Imamura et al. (2010)

## Biofeedback

Imamura et al. (2010)

- PFMT plus biofeedback effective
- manometric
- surface EMG
- vaginal probe / electrode
  - equipment
  - accessories
  - vaginal stenosis, scarring, closure

#### Neuromuscular electrical nerve stimulation

"Do not routinely use electrical stimulation in combination with pelvic floor muscle training"

"Electrical stimulation and/or biofeedback should be considered in women who cannot actively contract pelvic floor muscles in order to aid motivation and adherence to therapy" NICE (2013)

#### Challenges

- language
- religion / culture
- understanding
- staff training / professional development
- resources
  - patient education
    - equipment
- compliance / follow up

# Persistent bladder dysfunction

Incomplete bladder emptying

- double / triple voiding
- intermittent self catheterisation

Urinary incontinence - urethral plug



# **Urethral plugs**

- 181 women
- 137 (75.7%) dry
- 18 (9.9%) half dry
- 26 wet small bladder, wide or new urethra
- prolonged use
- reuse

#### Recommended service

- Pre-operative pelvic floor muscle assessment and exercise advice for all women
- Early post-operative exercises and advice for symptomatic / all women
- Long term follow-up and physiotherapy for women with persistent urinary incontinence
- Other roles for physiotherapists ......

#### **Physiotherapy**

- Pre-operative rehabilitation (15-20% women) - foot drop - weakness - contracture Post-op rehabilitation Anorectal dysfunction
- Staff education (midwives, nurses etc.)
- Antenatal education / treatment

# Thank you

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