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GENITO-URINARY PROBLEMS
MODULE

STUDENT TEXT

1980
Rural Health Development Project
Ministry of Health and Social Welfare
Maseru, Lesotho

ACKNOWLEDGEMENTS

Nurse Clinician training materials are Lesotho adaptations based upon the MEDEX prototype curriculum for training mid-level health workers.

The prototype MEDEX materials were developed by the Health Manpower Development Staff of the John A. Burns School of Medicine, University of Hawaii. The original prototypes were based on training experience in over a dozen third-world countries. These were revised on the basis of HMDS experience in Micronesia, Thailand, Pakistan, and Guyana before being made available to Lesotho under a U.S.A.I.D. funded contract.

Major adaptation in Lesotho began at the National Nurse Clinician Training Programme Curriculum Adaptation Workshop held at Mazenod in January 1980. The nearly fifty participants represented all major health and health related activities in Lesotho, both Government and private. These participants and others working as individuals and then as review committees have adapted the Nurse Clinician training materials to meet the conditions and needs of Lesotho.

The Government of Lesotho and particularly the staff of the Nurse Clinician training Programme are grateful to HMDS for supplying the prototype materials and to all those individuals who have helped in the Lesotho adaptation process.

First Edition May 1980

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REFERENCES USED IN THE
DEVELOPMENT OF THE GU MODULE

General References

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Audio-Visual Materials

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Illustration Bank, World Health Organization, Geneva, Switzerland, 1974.

Lowry, P., University of Hawaii, Honolulu, Hawaii, USA.

ILLUSTRATIONS
REFERENCES

Module: G.U.MODULE

*If not applicable - NA

	Source	*Permission Requested (Date & Initial)	Permission Received (Date)
Fig.GU 1-7, 9-10	Ms.Cindy Lowry	NA	
Fig.GU 14, 16-23	Jimmy La Rose M.D.	NA	
Fig.GU 13, 15	Bates, Barbara, <u>A Guide to Physical Examination</u> , J.B. Lippincott, 1974.	NA	
Fig.GU 10	Williamson, Paul, <u>Office Procedure</u> , W.B.Saunders, 1963		
Fig.GU 24	Hill, George, <u>Outpatient Surgery</u> , W.B.Saunders, 1980.		

GENITO-URINARY PROBLEMS

SCHEDULE

DAY 1	DAY 2	DAY 3	DAY 4	DAY 5
<p>8:30-9:30 PRETEST</p> <p>DISCUSSION OF PREVIOUS WEEK</p> <p>9:30-10:30 READ TEXT AND ANSWER QUESTIONS</p> <p>10:30-11:00 TEA</p> <p>11:00-12:00 ANATOMY AND PHYSIOLOGY OF GU SYTEM</p> <p>12:00-1:00 READ TEXT</p>	<p>8:30-9:30</p> <p>HISTORY AND PE OF GU SYSTEM -CLASSROOM</p>	<p>8:30-9:30</p> <p>READ TEXT AND ANSWER QUESTIONS</p> <p>9:30-10:30</p> <p>NEPHRITIS, NEPHROTIC SYNDROME</p> <p>10:30-11:00 TEA</p> <p>11:00-1:00</p> <p>GONORRHOEA AND SYPHILIS -discussion -case studies</p>	<p>8:30-10:30</p> <p>CLINICAL PROTOCOLS</p> <p>TEA</p> <p>11:00-1:00 SCROTAL SWELLINGS</p>	<p>8:30-1:00</p> <p>PERFORMANCE EXAM</p>
LUNCH	LUNCH	LUNCH	LUNCH	LUNCH
<p>2:00-4:30</p> <p>Discussion and lecture UTI, STONES, PROSTATISM URETHRAL STRICTURE</p> <p>Practice- PERCUSSION OF CVA PALPATION AND PERCUSSION OF BLADDER SUPRAPUBIC PUNCTURE</p>	<p>2:00-4:30</p> <p>CLINIC AND WARDS</p>	<p>2:00-4:30</p> <p>SCROTAL SWELLINGS</p>	<p>2:00-3:30</p> <p>PENILE LEISONS</p> <p>3:30-4:30</p> <p>REVIEW</p>	<p>2:00-4:30</p> <p>POSTEST</p>

STUDENT GUIDE

ANATOMY AND PHYSIOLOGY OF THE GENITAL-URINARY TRACT

I. Entry Level Skills and Knowledge:

Before starting this Unit, you should be able to:

Explain the structure and function of the urinary system.

II. Objectives:

Using the information and experiences provided by the Instructor and the Module Text, trainee will be able to:

Identify and differentiate the Anatomy and Physiology of the G.U. System (male and female).

III. Evaluation:

Upon completion of the module, you will be assessed on:

Knowledge: Written test based upon contents of unit in module text. Accepted performance, 80%.

IV. Activities you will be participating in to complete the Unit Objective:

1. Students read module text, Anatomy and Physiology of the Genital Urinary Tract and answer review questions.
2. Instructor presents slides on anatomy and physiology of the GU system.
3. Discussion of Anatomy and Physiology of GU system.

ANATOMY AND PHYSIOLOGY

Anatomy

The urinary tract system is closely associated with the genital system and shares many features in common with it. For this reason the two systems are often referred to together as the Genital-Urinary System.

The Urinary Tract (Fig. GU 1)

The urinary tract in both sexes consists of the upper urinary tract, composed of the paired kidneys and ureters, and lower urinary tract, composed of the urinary bladder and the urethra.

The Male Genital Tract (See Fig. GU 2 and 3)

In males, the genital tract consists of the testis/epididymis in the scrotum, the spermatic cord, and the prostate and of the urethra which is shared with the urinary tract.

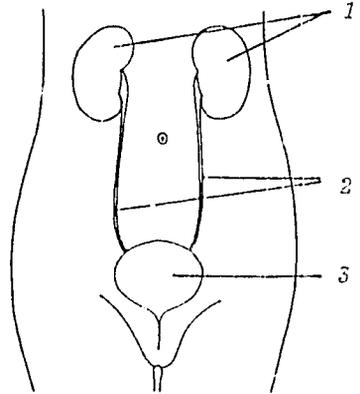


Figure GU 1 - "The Urinary Tract" The urinary tract - 1) Kidneys, 2) Ureters, 3) Bladder - in silhouette against the abdomen, front view.

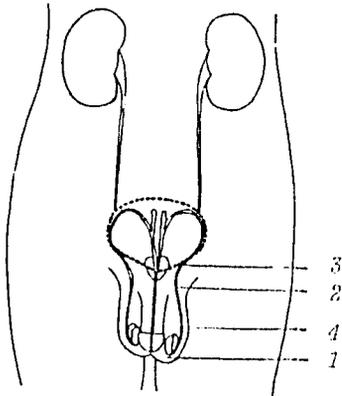


Figure GU 2 - "The Male Genital-Urinary System": The male genital tract - 1) Scrotum, 2) Spermatic cord, 3) Prostate, 4) Urethra - prominent with the urinary tract in silhouette, front view.

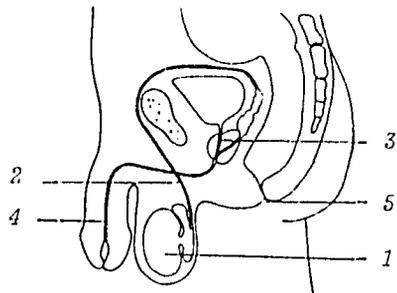


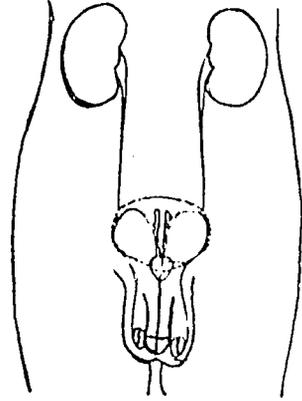
Figure GU 3 - "The Male Genital Urinary System": The male genital tract - 1) Testis, 2) Spermatic cord, 3) Prostate, 4) Urethra and Urinary tract and 5) Rectum shown through mid-line of body.

REVIEW QUESTIONS

Anatomy and Physiology of the Genital-Urinary Tract

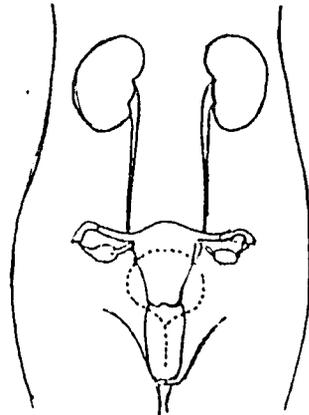
1. On the picture to the right, number the parts of the genital urinary tract as follows:

- the kidneys with a 1
- the ureters with a 2
- the bladder with a 3
- the scrotum with a 4
- the spermatic cord with a 5
- the prostate with a 6
- the urethra with a 7



2. On the picture to the right, number the parts of the genital urinary tract as follows:

- the kidneys with a 1
- the ureters with a 2
- the bladder with a 3
- the ovaries with a 4
- the tubes with a 5
- the uterus with a 6
- the vagina with a 7



3. Discuss the purpose of the kidney and how it functions.

4. Discuss the cleansing mechanism of the urinary tract.

5. If the statement is true, write "T". If the statement is false, write "F".
- a. ____ The urinary bladder is located immediately anterior to the vagina and uterus in females and to the rectum in males.
 - b. ____ In males the urethra is shorter while in females the urethra is long.
 - c. ____ In a normally functioning urinary tract, urine remains in the bladder, urethra or ureters after voiding.

STUDENT GUIDE

URINARY TRACT INFECTION

I. Entry level Skills and Knowledge:

Before starting this Unit, you should be able to:

Describe and discuss normal Anatomy and Physiology of the G.U. System in males and females.

II. Objectives:

Using the information and experiences provided by the instructor and the module text, you will be able to:

1. Describe the pathological processes which cause UTI, UT Stones, Prostatism, and urethral stricture.
2. List the physical signs associated with these problems.
3. Percuss the loin for deep kidney pain.
4. Palpate and percuss the lower abdomen for bladder size and tenderness.
5. Describe the usual course and common complications of the above problems.
6. Describe and discuss use of protocol in managing the patient presenting with these problems.
7. Describe management procedure for patients who you diagnose as have U.T.I., U.T. Stones, Prostatism, and urethral stricture.

III. Evaluation:

Upon completion of the module, you will be assessed on:

Knowledge: Written test based upon contents of unit in module text. Acceptable performance, 80%.

- Skills:**
1. Percussion of the loin for deep kidney pain.
 2. Palpation and percussion of the abdomen for bladder tenderness and size.

1

IV. Activities you will be participating in to complete the Unit Objective:

1. Student read module text on UTI, U.T.Stones, Prostatism and answer review questions.
2. Discussion of these problems as described in the module text.
3. The instructor will demonstrate:
 - a. Percussion of the loin for deep kidney pain.
 - b. Palpation and percussion of abdomen for bladder and tenderness and size.
4. Students work in pairs to practice skills:
 - a. Percussion of the loin for deep kidney pain.
 - b. Palpation and percussion of the abdomen for bladder tenderness and size.Observation and assistance by instructor.

URINARY TRACT INFECTION (UTI)

General Consideration

Bacterial infections occurring within the urinary tract are usually caused by bacteria entering through the urethra. Anything that leads to urinary obstruction or retention can lead to an infection.

Since the urethra is shorter in women, urinary tract infections are more common in women especially during pregnancy. Men with obstructive symptoms secondary to enlarged prostates are often found to have UTI's. Persons with urinary tract stones, congenital abnormalities and diabetes mellitus have an increased incidence of urinary tract infections.

Clinical Picture

Painful urination with frequency and urgency are the most common symptoms. If the infection progresses up the urinary tract to involve the kidney, fever and flank pain may be prominent. This is often associated with increasing fatigue and exhaustion. The urine may become foul smelling or even bloody.

Complications

The main complication of a simple urinary tract infection is involvement of the kidney (pyelonephritis). This may progress on to septicemia, or permanent scarring and destruction of kidney tissue leading to hypertension and kidney failure.

In addition, scarring of the ureters may occur which leads to a tendency of recurrent UTI's and pyelonephritis.

Management

1. Increased fluid intake is very important because fluids flowing through the urinary tract rinses out the tubular system.
2. Sulfadimidine every 6 hours with a full glass of water for 10 days.
 - 0 - 4 years 2 tsp. (250 mg) Triple Sulfa Syrup
 - 5 yrs to 12 yrs 1 tab (500 mg)
 - 12 - Adult 2 tabs (1 gm)
3. For pregnant women, do not use Sulfadimidine.
Use instead:
 - Ampicillin 2 caps (500 mgm) four times
a day for 10 days.

Management of Complications

1. Recurrent infections should be referred to a physician.
2. Pyelonephritis should be referred to a physician.

Prevention

1. Women should be instructed in wiping front to back after urinating or defecating.
2. As a daily routine, drinking a lot of water and other fluids is good for the urinary tract system.

DIAGNOSTIC SKILLS

PERCUSSION FOR DEEP KIDNEY PAIN

Supplies

No supplies are needed.

Purpose

The purpose of this skill is to develop the ability to recognize the presence of deep kidney pain and to be able to distinguish this from simple muscle irritation due to sprain or strain.

Steps

The kidneys are located in the angle formed by the lower ribs (costal vertebral angle) and are resting against them. Infection of the kidneys causes swelling of the kidneys and irritation of the surrounding tissue including the muscles of the vertebral column immediately posterior to the kidneys. The swelling and muscle irritation will cause deep pain sensation in the loin area. A firm blow to this area will then move the kidney slightly and increase the severity and intensity of the pain.

The examiner should stand to one side of the patient and slightly to the posterior. He should hit the patient firmly but without excess force in the costal vertebral angle with the ball of his fist in a single sharp blow.

Results: If kidney inflammation is present, the pain will increase and become excruciating and the patient will flinch and withdraw from the blow. If the tenderness is due to muscle sprain or strain, only mild tenderness is felt. A normal person should experience no pain when hit with the appropriate force in this area.

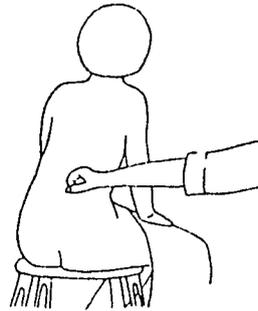


Figure GU 6 - "Testing for Deep Kidney Pain": back view.

REVIEW QUESTIONS

1. What are the common symptoms of urinary tract infection?

2. What is one anatomic reason why urinary tract infection is more common in women than men?

3. A patient comes in complaining of painful urination, fever, and flank pain. What is your diagnosis?

4. What is the basis for repeated attacks of UTI in such diseases as prostatitis and urinary tract stones?

5. A woman comes in with complaints of fever, dysuria, flank pain and frequency of urination. Your diagnosis is pyelonephritis.
-What is your management?

-What personal hygiene and dietary measures may be helpful?

6. What is the difference between a urinary tract infection and an attack of pyelonephritis?

7. Explain the patient response to percussion for deep kidney pain in the following situation:
 - a. The patient has kidney infection.
 - b. The patient has back sprain.

URINARY TRACT STONES

General Considerations

The size and location of the urinary tract stone and the presence or absence of urinary obstruction determines the severity of the damage caused by the stones to the kidney. Urinary tract infections frequently occur in association with the urinary obstruction and add to the severity of the disease.

Clinical Picture

Urinary tract stones are often asymptomatic unless obstruction occurs, at which time complaints of severe loin, flank or lower abdomen pain may occur depending on the site of the stone. Haematuria will be present. If an infection occurs, fever and symptoms of pyelonephritis (see pyelonephritis - clinical picture) may be present.

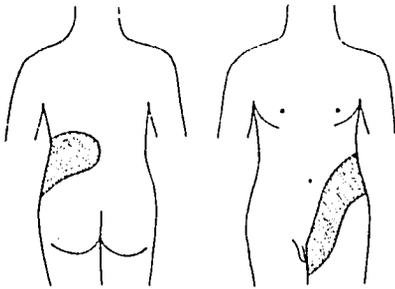


Figure GU 7 - "Possible location of pain associated with urinary tract stones".

Complications

The primary complication of urinary tract stones is urinary obstruction. This in time can cause urinary tract infection, pyelonephritis and renal failure.

Management

1. Encourage large amount of fluids especially water, 2 to 3 litres per day. This flushing may result in passage of the stone.
2. Give analgesics for pain. Urinary tract stone is accompanied by severe pain - Pethidine 100 mg IM.
3. Refer to a hospital. Continue to give oral fluids on route.

REVIEW QUESTIONS

1. A patient enters with severe loin pain of sudden onset, haematuria but is without fever. What is your diagnosis?
2. What is the treatment for urinary tract stones?
3. One common complication of urinary tract stones is urinary tract obstruction. What other problems occur as a result of urinary tract obstruction?
4. Urinary tract stones can cause pain. Draw a picture showing the locations of pain associated with stones.

PROSTATISM

General Considerations

Prostatism is a common disease of old men and is found throughout the world. The incidence of prostatism increases with age and as a result is found in some degree in almost all men over 40 years of age. Prostatism is characterized by an enlarged firm prostate and is caused by swelling of the prostate associated with aging and scarring of the prostate associated with repeated infections. This swelling and scarring in turn causes narrowing of the urethra and subsequent urinary obstruction leading to serious urinary tract disease such as pyelonephritis.

Clinical Picture

The chief complaint of the older men with symptomatic prostatism is generally urinary incontinence, difficulty in starting urination, complaints of frequent small urinations, and a constant full bladder are common. Repeated episodes of infections can occur due to urinary obstruction and suggests prostatism in an older man. Painless haematuria is commonly present.

Prostatism should be differentiated from other causes of urethra obstruction such as bladder stone (usually painful and often of sudden onset or remittant), tumour, including cancer (usually painless haematuria without urinary symptoms and often with weight loss) and urethral stricture (symptoms similar to prostatism). Patients with signs of urinary obstruction should be referred if possible for surgical correction of the obstruction.

Complication

Untreated urinary obstruction, as associated with prostatism, can lead to serious renal disease such as pyelonephritis and renal failure.

Management

1. In case of painful frequent urination, the man should be treated for a urinary tract infection.
2. If urinary obstruction is chronic and infections repeated, he should be referred for definitive surgery.
3. Acute urinary obstruction should be treated as an emergency with catheterization. (See skill sections, bladder palpation and catheterization.)

DIAGNOSTIC SKILLS

Palpation and percussion of the lower abdomen for bladder tenderness and bladder size.

Supplies

No supplies are needed.

Purpose

The purpose of this skill is to develop the ability to recognize the presence or absence of bladder tenderness and to be able to judge the size of the bladder if urinary retention is present.

Steps

An empty urinary bladder is normally just barely palpable if at all above the symphysis pubis. A full bladder can extend to about midway between the symphysis pubis and the umbilicus. If the bladder is palpable more than one centimetre above the pubic symphysis after urination then urinary retention probably is present. Occasionally with severe urinary retention, the bladder can extend to the umbilicus. Urinary tract infection as it affects the bladder usually causes a deep aching sensation in the lower abdomen above the pubis. If urinary retention occurs, a sensation similar to that associated with a very full bladder is added and the discomfort becomes extreme. If urinary retention is chronic, the sensation of discomfort and fullness is often lost.

The patient should be instructed to void prior to the examination and then should be lying flat on his back on a firm surface. The abdomen and pubic area should be uncovered. With the flat of the fingers, the lower abdomen should be firmly but gently palpated along the midline for tenderness and for resistance indicating bladder size. If the examiner is unable to determine bladder size from palpation then the lower abdomen should be percussed using either the direct or indirect method from the symphysis pubis towards the umbilicus. A change in resonance will indicate bladder size.

Results

The lower abdomen is generally tender on palpation with a urinary tract infection whether or not urinary retention is present. If the bladder can be palpated or percussed more than one centimetre above the symphysis pubis on a post voiding examination, then urinary retention is present.

THERAPEUTIC SKILL

Urinary Bladder Catheterization
- Adult Male Patient -Supplies

<u>sterile</u>	<u>non-sterile</u>
Rubber or plastic catheter, size 14 French	Protective sheet or towels
Two basins or glass jars	Good light source (flash- light or lamp)
Water soluble lubricant	Waste container
Kelly clamp	Container for boiling instruments
Forceps	
Gloves	
Cotton balls or swabs soaked in antiseptic solution	
Specimen bottle (if necessary)	

Purpose of Procedure

The purpose of this procedure is to relieve urinary retention or to obtain a sterile urine specimen for a urine examination.

Steps in Procedure

Prior to catheterization, examine the patient's abdomen to assure that the bladder is distended. Then put the patient at ease by explaining why the procedure is necessary and the steps you will take while performing the procedure. You should also explain to the patient that he will feel a little discomfort during the actual catheterization, and that he should try to relax as much as possible.

Catheterization is a sterile procedure. You must observe strict asepsis during the whole procedure to avoid introducing disease causing germs into the urethra and bladder.

Unless sterile supplies are already available, disposable or otherwise, two basins (or glass jars), gloves (with the cuffs turned up), forceps, Kelly clamp, and (if required) the specimen bottle must be first boiled for ten minutes. Keep the handle of the forceps upright, so that you can remove it from the water without contaminating the other equipment. All sterile equipment must be handled with the forceps.

While the equipment is being boiled, you can position and drape the patient. Make sure the patient has complete privacy while this procedure is being done. Have the patient disrobe from the waist down. Position the patient on his back with his legs spread apart. The legs can be straight or slightly bent at the knees. Position the lamp to illuminate the genital area. If a lamp is not available, have an assistant illuminate the genital area with a flashlight. Wash your hands with soap and water. Place a towel or protective sheeting under the patient's buttocks. If a clean drape is available, drape the genital area leaving the penis exposed.

Using the forceps, withdraw one of the basins which has been boiled. In this basin, again using the forceps, place the catheter and the Kelly clamp. In the first basin drip some water soluble lubricant near the tip of the catheter. Try to avoid getting the lubricant on the handle of the Kelly clamp. Do not touch any part of the basin with the tube containing the lubricant, or the basin will be contaminated. Using the forceps, withdraw the second basin. Into the second basin pour antiseptic solution. Do not touch any part of the basin with the antiseptic solution container. Open sterile package containing cotton balls or swabs and drop several into the basin containing the antiseptic solution without touching the cotton balls with your fingers or the container with the wrapping. Remove the specimen bottle, if a urine specimen is required, with the forceps from the container in which it was boiled. Tip the specimen bottle so the water drains out of it, but not so that the water runs down the forceps and then back into the bottle when it is placed upright. At this time only the pair of rubber gloves should be left in the container used for boiling the equipment.

Wash your hands with soap and water for the second time. If you are right-handed, you will glove the left hand first. Using the forceps, remove the left hand glove by picking up the middle finger. Hold the glove with the forceps, cuff downwards, for a few seconds so excess water can drain out. Place your fingers as far into the glove as possible without touching any part of the outside of the glove. Release the forceps. Grasp the folded edge of the cuff with the thumb and index finger of your right hand and pull the rest of the cuff onto the left hand. Using the forceps (do not pick up the forceps with the gloved hand) pick up the right hand glove. Allow excess water to drain. Slip the tips of the gloved hand between the inside of the cuff and the palm side of the glove. The end of the cuff may be held with the thumb of the gloved hand. Pull on the right glove, but do not touch any part of the ungloved hand or wrist with the gloved left hand.

If you are right-handed do not touch the penis with your right hand. Retract the foreskin of the penis with your left hand. Remember, your left hand is no longer sterile and should not touch any of the sterile equipment. Holding the foreskin in a retracted position, pick up the Kelly clamp with the right hand. With the Kelly clamp, pick up one of the antiseptic soaked cotton balls. Cleanse the exposed part of the penis from the urethral opening (meatus) downward along the shaft. Each cotton ball is used for only one downward cleansing stroke. Dispose of each used cotton ball in the waste container, not in the basin. Use a new antiseptic soaked cotton ball until all the exposed area has been cleansed. Do not touch the penis with the clamp. (Fig. GU 8.)

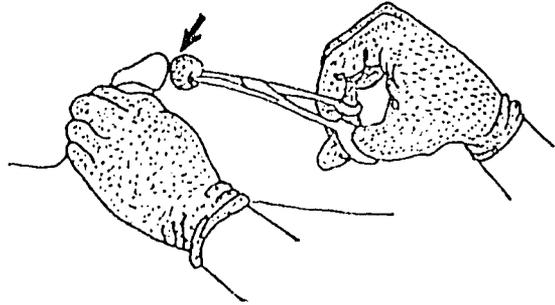


Figure GU 8 - Catheterization of the Male: Cleans the exposed part of the penis from the urethral opening (meatus) downward. Each cotton ball is used for only one downward cleansing stroke.

Lubrication of the catheter is necessary to prevent urethral trauma and the possibility of a secondary bacterial infection. Liberally lubricate approximately 7 to 10 inches (17.5 to 25 cm) of the catheter. A drop of lubricant is also placed on the opening of the urethra (meatus).

With your left hand, position the penis at a right angle in relationship to the body of the patient. Grasp the catheter approximately one inch (2.5 cm) from the end to be inserted into the urethra with the Kelly clamp (make sure no antiseptic solution remains on the tip of the clamp before grasping the catheter). Hold the open end of the catheter between the ring and little finger. (Fig. GU 9). The catheter is gently advanced into the urethra an inch at a time by removing and reapplying the Kelly clamp at progressively higher levels up the catheter.

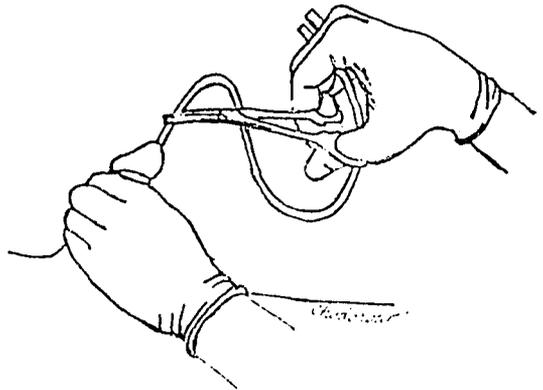


Figure GU 9 - Catheterization of the Male: The catheter is gently advanced into the urethra an inch at a time by removing and reapplying the Kelly clamp at progressively higher levels up the catheter.

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As the catheter reaches the base of the penis slight resistance may be felt. When this happens, the penis is placed under slight tension and is elevated with the left hand. A slight rotation of the catheter may also be helpful during insertion.

Advance the catheter until urine flows, approximately a distance of 7 to 10 inches (17.5 to 25 cm). Once urine starts to flow, advance the catheter another one inch (2.5 cm). Urine can be collected in the basin in which the catheter was located, unless a urine specimen is required in which case the urine would be collected in the specimen bottle. When urine ceases to flow or the amount is in excess of 1,000 cc, pinch off the catheter with the Kelly clamp and gently remove the catheter.

Dry the patient and reposition the foreskin.

Results

Never force the catheter if you encounter difficulty or obstruction. Withdraw the catheter, dry the patient, reposition the foreskin, and refer the patient to a physician.

Do not advance the catheter more than one inch (2.5 cm) into the bladder after urine starts to flow or the bladder may be punctured by the tip of the catheter.

Do not remove in excess of 1,000 cc of urine at one time. This may result in the collapse of the walls of an over-distended bladder and the possible complication of shock. It is recommended that the patient be catheterized on two separate occasions if the bladder does not empty with the first catheterization and the urine passed exceeds 1,000 cc.

REVIEW QUESTIONS - PROSTATISM

1. In what group of men is prostatism most common?

2. The enlarged prostate narrows the urethra and can obstruct urine flow. If this occurs what disease can result?

3. A 70 year old man is brought into the clinic by his daughter. She says he cannot control when he urinates and that he complains of always having a full bladder. Upon abdominal exam the bladder is palpable at 2 cm above the symphysis pubis after voiding. What is the likely diagnosis?

4. How would you manage prostatism associated with repeated urinary tract infection?

5. Why is learning the diagnostic skills for palpation and percussion for bladder tenderness and size important?

6. Occasionally with severe urinary retention, the bladder can extend up to where?

7. What symptom is indicative of bladder retention?

URETHRAL STRICTURE

General Considerations

This is the segmental narrowing of the urethra. It commonly occurs around the age of 30-40 years and is usually associated with previous gonorrhoeal infection. It may also be caused by trauma to the urethra e.g. by a straddly injury to the perineum or due to forceful catheterization by unskilled personnel. The condition develops from injury which heals with time. Part of the healing process may involve the formation of fibrous tissue in the area which, with the passage of time, shrinks (like scar tissue elsewhere). This shrinkage causes narrowing of the damaged portion of the urethra.

CLINICAL PICTURE:

Symptoms/Signs:

There may be a history of previous trauma or urethral discharge. The onset is usually insidious with increased frequency and difficulty in starting urination. Often it may present suddenly with acute urinary retention, in which case the bladder would be distended and palpable.

Complications:

Acute urinary retention can occur. However, chronic retention with leakage of urine through multiple sinuses draining. Cystitis may be a concomitant problem and this is due basically to obstruction, stasis and super-added infection.

Management:

1. Refer.
2. If urinary retention occurs:
 - a. Attempt to pass stiff catheter under aseptic technique.
 - b. If attempt fails, do suprapubic puncture.
3. If urinary tract infection present, start sulfadimidine as described in UTI Protocol.

THERAPEUTIC SKILL

Suprapubic Puncture

Supplies

Spinal needle
Soap
Sterile gloves
Lidocaine 2%
Syringe with 25 gauge needle
Pan to collect urine
Small gauze dressing
Tape

Purpose

To empty the bladder when the urethra cannot be catheterized because of strictures of the urethra. (Should not be done on a patient who has had prior lower abdominal surgery.)

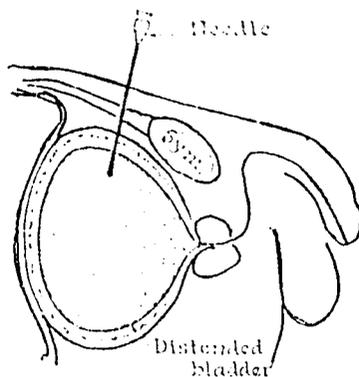


Figure GU 10

Steps

1. Explain the procedure to the patient.
2. Have the patient lie flat on his/her back.
3. Palpate to be sure that the bladder can be felt above the symphysis pubis.
4. Cleanse the area from symphysis pubis to umbilicus using soap and water.

5. Infiltrate approximately 0.5 cc of lidocaine 2% into midline, about two finger breadths above the symphysis pubis.
6. Put on sterile gloves.
7. Insert spinal needle at a 45 degree angle through anaesthetized area into bladder. (See Figure GU 10) Empty the bladder of 500 cc urine, stop and wait five minutes, then empty rest of urine.
8. Remove spinal needle and apply small gauze dressing. Wound will seal off by itself.

STUDENT GUIDE
NEPHRITIS, NEPHROTIC SYNDROME

- I. Entry Level Skills and Knowledge.
Before starting this Unit, you should be able to:
 Explain the normal Anatomy and Physiology/
 Pathophysiology of the GU System.
- II. Objectives:
Using the information and experiences provided by the Instructor and the Module text, you will be able to:
 - 1. Using the protocol, identify and differentiate the historical data and physical signs associated with nephritis and nephrotic syndrome.
 - 2. Demonstrate the use of reagent strip in identification of protein in the urine.
 - 3. Describe the usual course and common complications of nephritis and nephrotic syndrome.
 - 4. Describe the management procedures for the patient with the above-mentioned conditions.
- III. Evaluation:
Upon completion of the module, you will be assessed on:
Knowledge: Written test based upon contents of unit in module text. Acceptable performance, 80%.
Skills: Identification of normal and bloody urine.
- IV. Activities you will be participating in to complete the Unit Objective:
 - 1. Read module text and answer review questions.
 - 2. Participate in large group discussion of text material.
 - 3. View slide presentation.
 - 4. Engage in practice sessions of the following:
 - a. Performing physical examination of the GU System.
 - b. Use of protocols and information in case studies to diagnose and manage nephritis and nephrotic syndrome.
 - c. Examine urine for blood.
 - d. Use reagent strip to identify proteinuria.

NEPHRITIS

General Considerations

Nephritis is a serious inflammatory disease of the kidneys that can occur following a streptococous infection, either of the upper respiratory system or skin. Nephritis is most common in children, although it can occur in any age group. The disease tends to be milder in children than in adults and recovery usually occurs without permanent damage to kidneys. In some cases, however, nephritis can become chronic and cause serious long term illness and even death to the patient.

Nephritis can occur also, following industrial exposure to certain chemicals that are toxic to the kidneys.

Clinical Picture

Patients with nephritis generally present with fever and haematuria, either bloody or coffee coloured urine. In mild cases, the haematuria, may be barely noticeable and no other symptoms may be present. In other cases, puffiness of eyes and face and occasionally even generalized

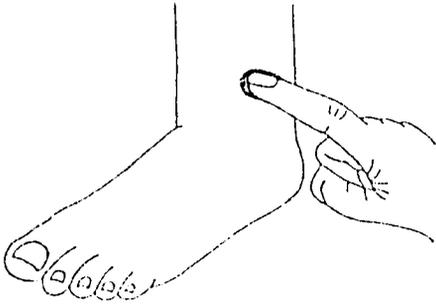


Figure 5U 11 - "Pitting Leg Oedema" - sign of anterior tibial region of leg.

oedema may occur along with gross haematuria and decrease volume of urination. In severe cases, with generalized oedema, complaints of difficulty breathing and other symptoms of heart failure, including pulmonary oedema may be elicited and rapid pulse with elevated blood pressure may be noted.

Haematuria may persist for months after an acute attack and is not a good measure for evaluating improvement in nephritis. A urine exam will reveal haematuria. (See Diagnostic Skill, Recognizing Haematuria).

Complications

In severe cases, generalized oedema and fluid and salt retention may lead to cardiac failure with difficulty breathing, an enlarged heart and pulmonary oedema with rales in the bases of the lung (see module on heart failure). The hypertension of nephritis can add to the severity of the heart failure and may cause headache, drowsiness, vomiting, muscle twitch and convulsions as well, due to its effect on the brain.

20 3

Infections are especially dangerous in people with nephritis and should be vigorously treated. Acute nephritis in some cases will develop into a chronic nephritis with progressive destruction of the kidneys over years, and periodic symptoms of fever, tiredness, decreased urination and haematuria with occasionally acute attacks.

Management

All cases of suspected nephritis, should be referred to a hospital.

DIAGNOSTIC SKILLS

RECOGNIZING HAEMATURIA

Identification by visual inspection of normal and bloody urine.

Supplies

One bottle of clear glass with capacity between 50 to 500 cc's.

Purpose

The purpose of this skill is to recognize the presence or absence of blood in the urine without the use of a microscope or accessory equipment.

Steps

Blood in the urine will usually cause a pink to reddish discolouration and indicates bleeding somewhere in the urinary tract. Bloody discolouration of the urine can also occur in association with a woman's menstrual period and if present, makes the test unreliable.

The patient should be instructed to void into a clean urine bottle. The urine should be caught from mid-stream after some urine has already been passed. The bottle should then be held up to the light and the appearance noted.

Results

The urine is normally clear, slightly yellow in colour but may be dark yellow to coke coloured and cloudy and still be normal. Urine with a pink to red colour indicates the presence of blood and the redder the colour, the more blood is present. The test is unreliable in a woman who is having her menstrual period. Rarely, certain dyes associated with food or drink pass into the urine and cause it to turn a reddish colour which can be confused with a bloody urine.

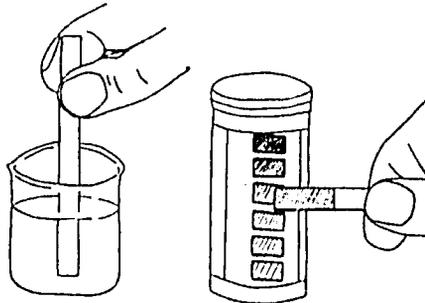


Figure GU 12 - Labstick urine test for haematuria.

REVIEW QUESTIONS

Nephritis

1. A six-year old boy comes to the clinic. His mother says he has a fever and that his urine looks red. She notes that he is usually healthy but that about 6 weeks ago he had a bad skin infection but was not treated at that time. You note some swelling of the eyelids and mild oedema of the legs.
 - a. What is your diagnosis?

 - b. Is hospital referral necessary?

2. Nephritis is a serious inflammatory disease of the kidneys that can occur following a streptococous infection. What are the usual sites of this infection?

3. Any age group could suffer from nephritis but it is most common among:
 - a. men over 40
 - b. young men
 - c. women
 - d. children

4. Why is the presence or absence of haematuria not a good indicator of the progress of a patient with nephritis?

NEPHROTIC SYNDROME

General Considerations

The nephrotic syndrome is caused by loss of protein, salts, and fats into the urine as a result of damage to the filtering mechanism (glomerulus) of the kidney. This loss of protein and salts in turn leads to changes in the composition of the body fluids and movement of the fluid into the soft tissue (oedema) and serous cavities (ascites in the abdomen, hydrothorax in the chest) of the body, which in turn can interfere with movement and function of the various organs. The nephrotic syndrome is found throughout the world. It is usually more serious in adults than children although it can be life-threatening to both.

Clinical Picture

The nephrotic syndrome is characterized by generalized massive oedema of the body including the legs, ascites and chest and by large amounts of protein in the urine. With the development of massive oedema and ascites, severe respiratory distress and gastrointestinal problems may occur. The nephrotic syndrome should be differentiated from other diseases causing massive oedema such as protein calorie malnutrition (kwashiorkor - usually in children with signs of malnutrition), nephritis (fever, haematuria), cirrhosis of the liver (ascites and/or jaundice), and heart failure.

Complications

The nephrotic syndrome can lead to the following complications:

- hypertension, with hypertensive heart disease and coma.
- renal failure.

Management

All patients with the nephrotic syndrome should be referred to the hospital for specialized treatment.

In mild cases, which cannot be referred the patient should be placed on restricted activity, and on a low sodium diet but with normal quantities of protein and calories. Infections can be very serious and should be referred.

REVIEW QUESTIONS

1. A 10-year old girl comes to your clinic with massive swelling of her legs, abdomen and trouble breathing. Her blood pressure is 180/100. What problems must you consider when making a diagnosis?

2. Match the following diseases associated with oedema with specific symptoms and signs.

<p>___ a. Nephrotic syndrome</p> <p>___ b. Kwashiorkor</p> <p>___ c. Nephritis</p> <p>___ d. Heart failure</p>	<p>1. Haematuria and fever</p> <p>2. Hypertension and generalized oedema</p> <p>3. Heart murmur and dependent oedema.</p> <p>4. Child with reddish hair and skin lesions</p>
--	--

3. Nephrotic Syndrome is associated with oedema and ascites. Describe the relationship between kidney function and fluid movement in this disease.

4. If you suspect a patient has nephrotic syndrome your management responsibility is referral. If referral is delayed how would you manage the patient?

STUDENT GUIDE

DISEASES OF PENIS AND SCROTUM

I. Entry Level Skills and Knowledge

Before starting this unit, you should be able to:

Explain the normal Anatomy and Physiology of the GU system.

II. Objectives:

Using the information and experiences provided by the instructor and the module text, you will be able to:

1. Identify and differentiate the historical data and physical signs associated with gonorrhoea, syphilis, scrotal swellings (including - inguinal hernia, hydrocele, testicular tumour, torsion of testis, epididymo-orchitis), penile swellings (including phimosis and paraphimosis), and other penile sores (including - chancroid, granuloma inguinale, lymph-granuloma venereum, Herpes Progenitales).
2. Describe the usual course and common complications of gonorrhoea and syphilis.
3. Examine the penis following the procedures in the text.

III. Evaluation:

Upon completion of the module, you will be assessed on:

1. Knowledge: Written test based upon contents of unit in module text. Acceptable performance, 80%.
2. Skill: Examination of the penis and scrotum.

IV. Activities you will be participating in to complete the Unit Objective:

1. Read module text and answer review questions.
2. Participate in large group discussion of text material.
3. View slide presentation if available.
4. Participate in small group review discussion of material presented in class and analysis of case study.
5. Participate in large group discussion of case study presentations.

GONORRHOEA

General Description

Gonorrhoea is a venereal disease found worldwide in almost epidemic proportions. It is caused by a bacteria that is spread by sexual contact and usually occurs 4 to 10 days following exposure to an infected person.

Gonorrhoea generally involves the lower genital urinary tract but can spread throughout the genital tract and into surrounding pelvic structures causing pelvic inflammatory disease and into the blood stream causing generalized septicaemia and non-genital gonorrhoea such as gonococcal arthritis, dermatitis and conjunctivitis. Gonorrhoea can also occur orally.

Clinical Picture

Gonorrhoea in males most commonly causes a purulent yellow discharge from the urethra. Dysuria is common and if present without a visible discharge the penis should be "milked". (See Diagnostic Skill, Exam of Penis). In severe or chronic cases, the infection can spread up the genital tract and cause marked swelling of scrotum.

In women, gonorrhoea is often asymptomatic in the early stage or with symptoms similar to those of a urinary tract infection with dysuria and frequency of urination. In severe cases, the gonorrhoea can spread to the whole female genital system and surrounding structure (pelvic inflammatory disease) with symptoms of fever and severe lower abdominal pain.

Septicaemia can occur in both men and women and can cause gonococcal arthritis of knees or other joints. Oral gonorrhoea resembles an acute pharyngitis. Gonococcal conjunctivitis can occur in the newborn from infected mothers and should be treated vigorously. (See EENT Module).

Complications

The complications of gonorrhoea are many and include:

1. epididymitis
2. pelvic inflammatory disease (PID)
3. ectopic pregnancy - as a result of scarring from previous infections
4. sterility in both men and women - as a result of scarring from previous infections

5. urethral strictures
6. arthritis-dermatitis
7. pleuritis, meningitis, conjunctivitis, carditis

Management

1. Procaine penicillin 4.8 million units IM given in divided doses at three different sites. Two sites are chosen because of the pain associated when injecting these large amount intramuscularly, and Probenicid 2 tablets (one gram) by mouth at the same time the injections are given;

or, if allergic to penicillin,

Tetracycline 2 caps (500 mg) four times a day for five days.

2. Refer if symptoms are not relieved at completion of treatment (3-4 days). Resistant strains of the bacteria are being seen more frequently.

Complications

PID, SEPTICAEMIA, and ARTHRITIS - Refer to Hospital

If referral not possible, Procaine penicillin 4.8 million units I.M. with Probenicid 2 tabs (1 gm) one dose only, then give:

Ampicillin 500 mgm four times per day for 10 days.

If allergic to penicillin, give:

Tetracycline 500 mg four times per day for 10 days.

If symptoms do not subside in 4-5 days, refer to hospital.

Prevention

It is important to locate and treat all contacts with gonorrhoea. The contacts should be treated with the same dosage as appropriate for diagnosed cases of G.C.

REVIEW QUESTIONS

1. The signs and symptoms associated with gonorrhoea are different in men and women. Describe these differences.

2. Name four complications of gonorrhoea.
 - 1)
 - 2)
 - 3)
 - 4)

3. What should you do if you identify a patient with Pelvic inflammatory disease?

4. In addition to antibiotic treatment for the diagnosed case of gonorrhoea, what else should be done to manage and control gonorrhoea?

5. What is the drug of choice and recommended dosage for treatment of gonorrhoea?

6. What drug should be used if the patient is allergic to penicillin?

DIAGNOSTIC SKILLS

Examination of the penis

Supplies

Glove
Good light

Purpose

To develop the ability to recognize the presence of the following:

- 1) Urethral discharge
- 2) Phimosis and paraphimosis
- 3) Penile ulcers - secondary to Syphilis

Steps

Inform the patient of your intention - then adequately expose the genitals.

Ask patient to expose the glans by rolling back the foreskin.

Look in the sulcus for rashes and ulcers.

Ask patient to "milk" the penis and look at the orifice for discharge.

Look at the shaft for ulcers.

Palpate the ulcers for tenderness, induration of the base.

Palpate the inguinal nodes when finished.

SYPHILIS

General Considerations

Syphilis is a venereal disease found worldwide. It is caused by a spirochete that is spread by sexual contact. It is highly contagious.

Since the first phase is not painful, it may be ignored. However, it then can spread throughout the body causing serious problems 2 to 20 years after the first infection.

Clinical Description

Primary:

About 1 to 6 weeks after sexual contact with an infected person, a painless hard swelling will occur on the genitalia. This hard swelling may ulcerate in the middle. This lesion is called a chancre. It has rolled edges and even when ulcerated is non-painful. Common sites are on the penis or scrotum in men, and external or internal genitalia of women. If inside the vagina or on the cervix of women they may be completely missed by the woman.

This chancre will heal by itself if left alone.

Secondary:

If primary syphilis is not treated, about 2 to 3 weeks after the chancre a generalized skin rash may occur. This rash is associated with lesions all over the body including the palms of the hands and the soles of the feet. (The rash is highly infectious). ever, generalized lymph node enlargement, joint pains, patchy hair loss and conjunctivitis may occur.

Complications

Tertiary:

If both primary and secondary syphilis is untreated, the patient will recover and undergo a dormant phase; but 2 to 20 years later, serious lesions may occur in the heart, greater blood vessels, brain, spinal cord, bones and skin.

Congenital Syphilis:

Infants born to infected mothers have certain signs, such as skin rashes, flat (saddle) noses, blindness, nerve deafness and deformed notched teeth.

41

Management

Primary (chancre) and Secondary Syphilis:

1. Benzathine penicillin 1.2 million units in each buttock for a total of 2.4 million units

OR

Procaine Penicillin 2 cc (600,000 units) daily for 8 days.

Tertiary and Congenital Syphilis:

1. Refer to a hospital for treatment.

Prevention

1. Locate contacts and treat.
2. Wearing a condom during sexual intercourse is partially preventive.

REVIEW QUESTIONS

1. What are the signs of Secondary Syphilis?

2. What is the drug of choice in the treatment of syphilis - and in what doses?

3. A young man presents with a generalized skin rash, fever and malaise. You notice that his hair has come out in patches. He did have a small cut on his penis which cleared up 3 weeks ago. What is your diagnosis? How will you treat him?

4. A baby is born and a week after the mother brings her to the clinic. She has a flattened nose bridge, a running nose and a rash which is worse in the palms, soles and buttocks. What is your diagnosis?

How will you manage this baby?

How will you manage the mother?

5. A man comes to you with a complaint of scrotal pain. Upon examination you find the scrotum swollen. What will you do?

6. How will you manage a patient who has a swelling of his penis and adhesions around the foreskin?

INTRODUCTION TO SCROTAL SWELLINGS

General Considerations

Scrotal swellings may occur in all age groups. The swelling may be caused by fluid collection in sacs surrounding the testes (Hydrocoeles). It may be caused by bowel slipping into the scrotum (Hernias). The swelling may be secondary to injury, or neoplasm. Infection in scrotal structures such as the epididymis may also cause swelling.

Clinical Picture

The swelling may be intermittent or constant, firm or soft, large or small. Some causes of scrotal swelling may progress on to become very serious diseases.

INGUINAL HERNIA

General Considerations

A hernia is the protusion of bowel through its coverings into an abnormal situation. Hernias occur at sites of weakness in the abdomen wall. This weakness may be congenital or it may be due to excessive straining or constipation, chronic cough or urinary obstruction in an abdominal wall that is potentially weak. Inguinal hernias may be classified into two groups -

- a. Indirect
- b. Direct

The indirect hernia enters the deep inguinal ring and passes down the inguinal canal.

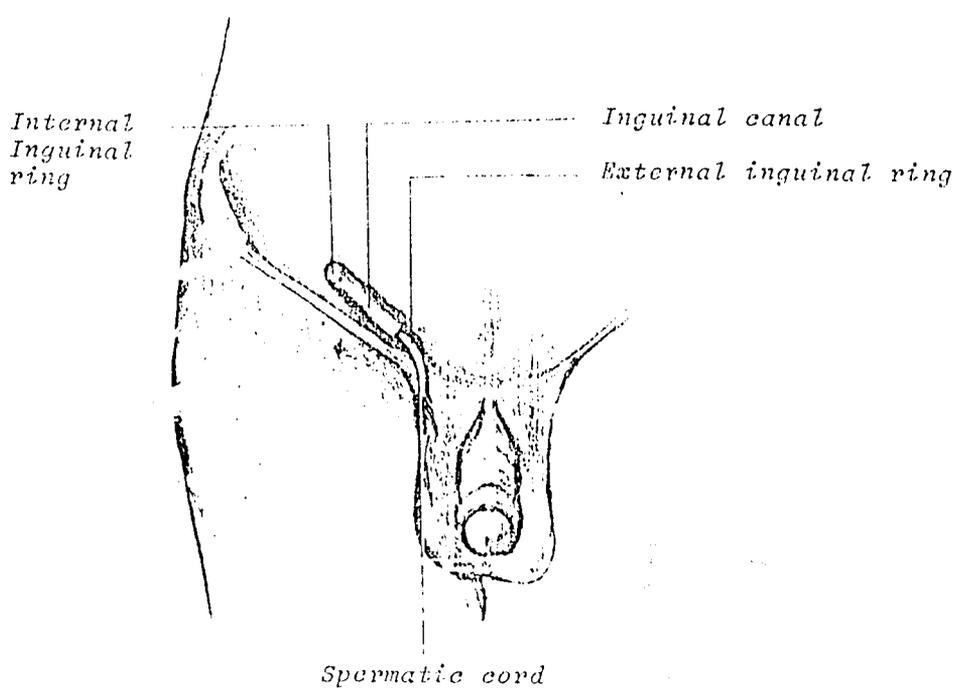


Figure GU 13

The direct hernia does not come out of the deep inguinal ring but from behind the inguinal canal, straight through the abdominal muscle.

The commonest however is the indirect hernia.

CLINICAL PICTURE

Symptoms:

Invariably it starts as a bulge in the lower groin. Later a swelling appears and goes down into the scrotum. There may be associated pain occasionally. The swelling characteristically comes down during the day and gets bigger with lifting heavy weights and tends to get smaller at night when the patient lies down.

Signs:

On examination there is usually an obvious scrotal swelling. You cannot get above this swelling because it arises outside of the scrotum. Have the patient lie down and attempt to reduce the swelling by pushing gently back up into the groin. There may be gurgling sounds (as the sac may contain loops of bowel). Get the patient to stand up and cough. The hernia almost always bulges out on coughing.

If your hand is placed over the superficial inguinal ring (see diagram below) you will be able to feel the impulse when the patient coughs.

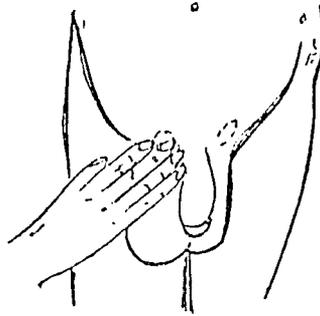


Figure GU 14 - Cough Impulse.

Occasionally the hernia cannot be reduced. This is called an irreducible hernia.

Complications

Because the hernia passes through a small circular opening, sometimes the blood supply gets squeezed and the hernia becomes strangulated.

This is characterized by severe pain in the scrotum, a tense, tender swollen scrotum and vomiting. This is a surgical emergency and should be referred immediately. No attempt should be made to reduce this under sedation.

Management

REFER.

If it becomes strangulated, REFER immediately.

DIAGNOSTIC SKILLExamination of ScrotumSupplies:

Glove
Good light

Purpose

To develop the ability to recognize the presence of the following:

1. Inguinal Hernia
2. Hydrocele
3. Testicular Tumour
4. Torsion of Testis
5. Epididymo-orchitis

Steps

Inform the patient of your intention - then adequately expose the genitals.

Inspect the scrotum (anterior and posterior) for nodule, inflammation or ulcers.

Between your thumb and first two fingers palpate each testis and epididymis. Note their size, shape, consistency and tenderness. Identify each spermatic cord and palpate along its course from epididymis to the superficial inguinal ring.

If any swelling present, trans-illuminate by:

1. Darkening room.
2. Shine beam of pen light from behind the scrotum.
3. Look for transmission of light as a red glow.

DIAGNOSTIC SKILL

Palpation for Hernia

Supplies

Glove
Good light

Purpose

To develop the ability to recognize the presence of hernias.

Steps

Inform the patient of your intention - then adequately expose the genitals.

Inspect inguinal and femoral areas for bulges. Ask the patient to bear down, while you observe.

Palpate using your right hand for patient's right side and your left hand for patient's left side.

Take index finger, start at bottom of scrotum and invaginate loose scrotal skin carefully. Follow spermatic cord upward to the triangular opening of the external inguinal ring. If possible, gently follow the canal. With your finger located at either the external ring or inside the canal, ask the patient to cough. Note any herniating mass as it touches your finger.

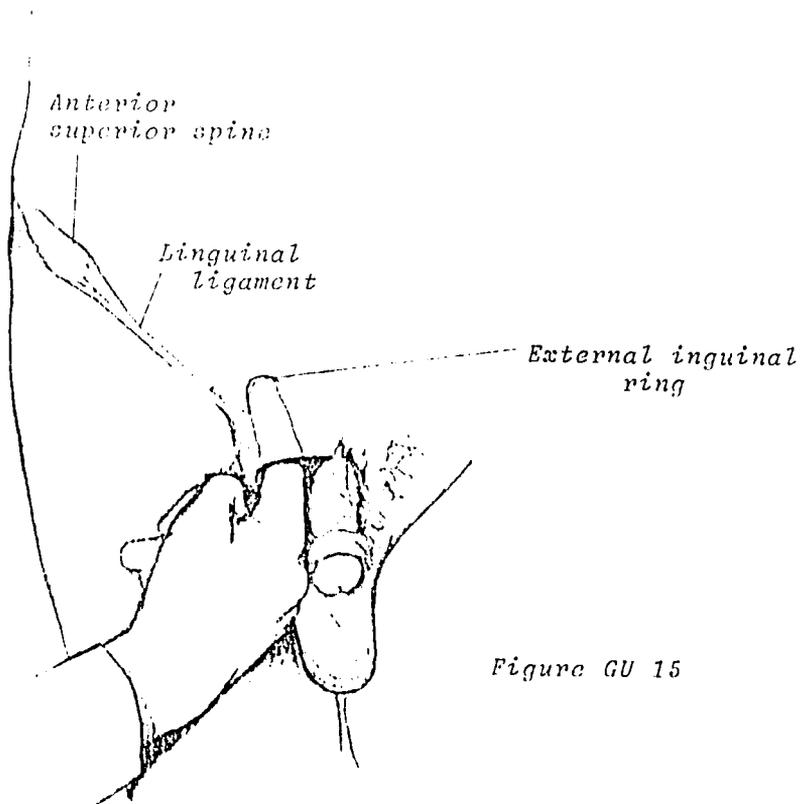


Figure GU 15

HYDROCELE

General Considerations

A hydrocele is an excessive collection of fluid in the tunica vaginalis which is the fibrous two-layered covering of the testis.

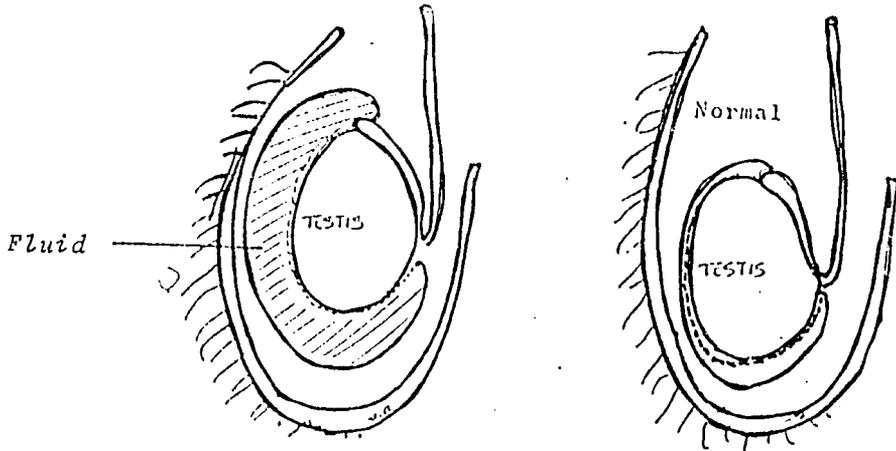


Figure GU 16

Most hydroceles are idiopathic (the cause is unknown). However a small percentage may be secondary to trauma to the testis, underlying the inflammation filaria or tumour arising from the testis.

These invariable are Guyanese refer to as Goadies.

Clinical Picture:

Symptoms:

There is the gradual onset of painless swelling in the scrotum. As it gets bigger and bigger it becomes a physical and social nuisance. Because of its weight, it causes a dragging discomfort or pain in the region and because of its size may be a constant source of embarrassment.

Signs:

On examination, one finds a Cystic (fluid containing) swelling confined entirely to the scrotum i.e. you can get above the swelling.

5

The swelling is Transilluminable and can be easily differentiated from an inguinal hernia by the following:

- a. It is confined to the scrotum.
- b. It has no cough impulse nor get bigger on coughing.
- c. It transmits bright light (transilluminable).

Complications:

Because of its size it may be susceptible to trauma and subsequent infection.

Management

REFER if it is a problem.

TESTICULAR TUMOUR

General Considerations

Most of the testicular tumours are malignant. The precise cause, like most cancers, is still unknown. Although over 10% of patients with testicular tumours give a history of trauma, there is still no convincing evidence that the trauma was responsible for the development of the tumour. In fact some people feel that the trauma just brings it to the patient's attention.

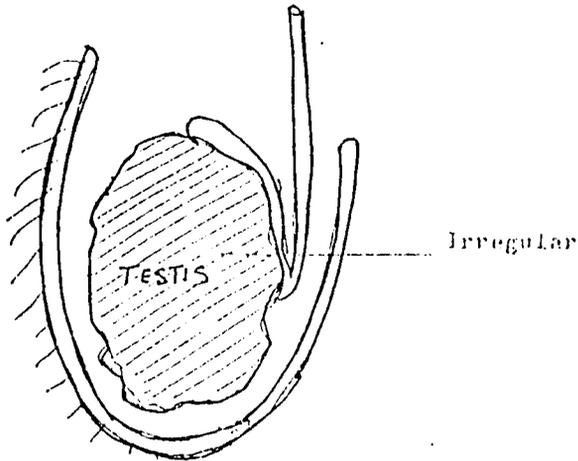


Figure GU 17

Clinical Picture

The majority of patients (65%) present with a painless lump in the testis. Occasionally (10%) there is a heavy sensation or pain in the testis. There is usually loss of normal testicular sensation which is painful on pressure. A small percentage (5%) present with hydrocele and an even smaller percentage present with weight loss, anaemia and other evidence of metastatic spread.

Complications:

If not treated early and vigorously - death can occur secondary to side spread metastasis.

Management:

All painless or irregular testicular swelling must be referred to rule out cancer.

TORSION OF THE TESTES

General Considerations

This is the condition in which the testis twists on its vascular pedicle. It commonly occurs in teenagers and rarely after 21 years. It is thought that perhaps there is a long mesorchium (testicular mesentery) that predisposes such testes to twist. Instead of being firmly fixed in the scrotum, it is capable of swinging around.

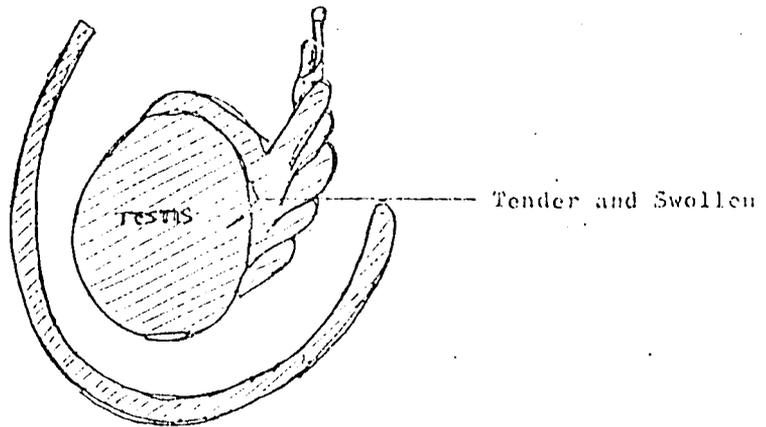


Figure GU 18

CLINICAL PICTURE

Symptoms:

Classically, there is an acute onset of very severe testicular pain associated with nausea and vomiting. There is no fever, dysuria or increased frequency. However, a good percentage present gradually with a previous history of similar minor attacks. They may be associated with riding or jumping.

Signs:

On examination, the patient is in obvious distress. He is in far more pain in relation to the clinical features. The testis on the affected side is considerably higher up in that scrotum than its counterpart. The testis and epididymis are swollen and very painful. They may be so swollen that the epididymis cannot be differentiated from the testis. The surrounding scrotal skin may also be red and swollen.

Complications:

If not recognised and treated early - gangrene of the testis will occur.

Management:

1. Once you suspect Torsion of the Testes -
REFER IMMEDIATELY.

DELAY IS DEADLY TO THE TESTIS.
2. Give Pethidine 100 mgm IM.

EPIDIDYMO-ORCHITIS

General Considerations

This is an infection of both the testis and the epididymis. Invariable it is due to a bacterial infection and it may be associated with cystitis, prostatitis, gonorrhoea or may occur de novo. It occurs in men usually after the age of 20 years.

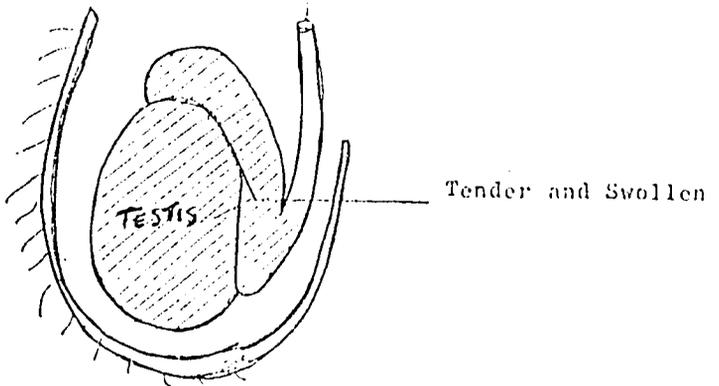


Figure GU 19

CLINICAL PICTURE

Symptoms:

The patient will complain of pain in the scrotum and also swelling of the testis. There will be fever and occasionally there may be dysuria.

Signs:

On examination both the testis and the epididymis are swollen and tender. Sometimes it is extremely difficult to differentiate between epididymo-orchitis and torsion of the testis. Outlined on the next page are guidelines to help make the distinction.

- In Torsion:
1. There is much more severe pain in relation to the clinical findings.
 2. There is no fever or dysuria.
 3. Scrotal elevation will not relieve the pain in the testis.

Complications:

If not treated some may go on to develop frank abscesses.

Management:

EPIDIDYMO-ORCHITIS:

DRUGS: CRYSTALLINE PENICILLIN (Penicillin G)
1 million units every 6 hours until there
is an improvement. Then put on PROCAINE
PENICILLIN 900,000 u. (3 cc) IM daily for 5 days.
A.S.A. 2 tabs.q.i.d.until the pain subsides.

1. Elevate the scrotum by means of a scrotal sling across the thighs.
2. If there is no real relief in 12 hrs. REFER as this may very well be a case of TORSION of the TESTIS.

REMEMBER IF EVER IN DOUBT ABOUT TORSION - REFER
IMMEDIATELY.

REVIEW QUESTIONS

1. What are the two commonest causes of scrotal swellings?
 - 1)
 - 2)
2. What single physical sign clearly differentiates between the two mentioned?
3. A teenager presents with sudden onset of testicular pain with mild fever, no dysuria or urethral discharge as yet. What is your diagnosis?
4. How would you treat this patient?
5. A 70 year old man presents with a small scrotal mass which is confined to the scrotum and is cystic but not painful. No testes can be palpated in that scrotum and the mass is transilluminable. What will you do with this patient?
6. What would you do with a patient who has a mass in the scrotum and you honestly don't know the cause?

PENILE SWELLINGS

PHIMOSISGeneral Considerations

This is the name of the condition in which the foreskin is so tight that it cannot be retracted (pulled back) over the glans penis. It is nearly always due to infection of the foreskin (BALANITIS) and seen commonly in children. The orifice of the foreskin is invariably very small.

Symptoms/Signs:

The mother complains that she cannot pull the foreskin back over the glans penis. Sometimes the orifice is so small that the child may have difficulty in urinating. On examination instead of looking like this:

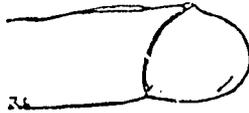


Figure GU 20 - Normal Penis

It looks like this:



Figure GU 21 - Appearance characteristic of phimosis

Complications

Sometimes the mother can pull the tight foreskin over the glans but cannot get it back in its original position. Soon oedema of the trapped foreskin and glans occur - secondary to obstruction.

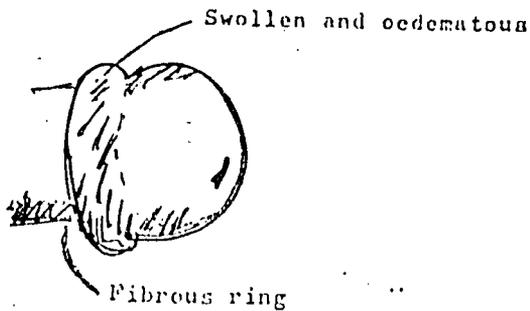


Figure GU 22

This is called PARA-PHIMOSIS.

Management

PHIMOSIS:

Gently separate the foreskin from the glans penis using a blunt mental probe inserted between the two tissue planes. (See Figure GU 23.)

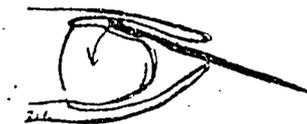


Figure GU 23

If you have not been successful, then REFER for possible Circumcision.

If you have been successful, get the mother to roll back the foreskin every day and to place a little SULPHA cream on to the raw area daily. This must be done every day so as to prevent the two tissues from sticking together again, and from the area becoming infected.

Tell the mother to remember to pull the foreskin forward so as to prevent Paraphimosis from occurring.

PARAPHIMOSIS:

1. Soak the oedematous tissue in either a rubber glove filled with ice or a HYPER-TONIC salt solution for at least 15 minutes.
2. Attempt to reduce it manually by pressing on the glans and at the same time pulling with the fingers. (See Figure GU 24.)

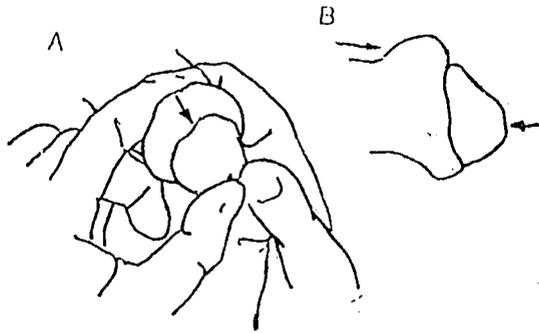


Figure GU 24

3. If this too fails, then REFER for possible circumcision.

REVIEW QUESTIONS

1. What causes phimosis?
2. What can the mother not do with the child's penis?
3. What is a complication?
4. How is this complication treated in order of preference?
 - a)
 - b)
 - c)
 - d)

OTHER PENILE SORES

General Considerations

Discussed here are some of the less common causes of sexually transmitted penile sores.

- Chancroid - Haemophilus decreyi
- Graunloma Inguinale (GI) - Donovan's bacillus
- Lymph Granuloma-Venereum (L.G.V.) - "Virus Like" Organism
- Herpes Progenitales - Virus

The diagnosis of these conditions can be confirmed by direct smear and examination under a microscope. There are also serological tests that help to confirm the diagnosis.

Clinical Picture:

	CHANCROID	G.I.	L.G.V.	HERPES
Vesicle	Vesicular-pustular	No	Yes	Yes
Ulcer	+	+	Fleeting †	Superficial
Ulcer Base	Yellow (dirty)	Red (beefy)	-	Red
Ulcer Edge	Irregular	Rolled	-	Whitish irregular edge
Pain	+++	Not usually	+	+++
Grain Nodes	++	†	++ Buboos	+

Complications

If left untreated, the lesions may spread to involve nearby tissues which eventually heal with extensive scarring. In L.G.V. rectal strictures and even cancerous changes can occur especially in females. But the latter complication is extremely rare. In late L.G.V. there may be elephantiasis of the female genitalia. This is due to the distension of the lymphatic tissues in the area.

Management:

The basic principles of management for all three conditions are the same.

DRUGS:

- CHANCROID - Sulfadimidine 2 tabs (one gm) four times a day for 10 days or Tetracycline 2 caps (500 mg) for 10 days.
- G.I. - Tetracycline 250 mg 2 tabs four times a day for one week.
Followed by one tab four times a day for two more weeks.
- L.G.V. - Tetracycline 250 mg 2 tabs four times a day for one week.
Followed by one tab four times a day for two more weeks.
- OR - Sulfadimidine 500 mg two tabs four times a day for 30 days.
- Herpes - Symptomatic for pain - sitz baths, aspirin.

1. Cleanse and dress ulcers thrice daily.
2. Aspirate the Buboos with a large bore needle to prevent rupture and sinus formation.

PATIENT ADVICE:

Same as for syphilis.

12-9

REVIEW QUESTIONS

1. Describe the clinical picture of granuloma inguinale.

2. What causes this?

3. How would you manage such a patient?
 - 1)
 - 2)
 - 3)
 - 4)
 - 5)

4. What causes Lympho-Granuloma Venereum?

5. What is the most striking clinical feature in this condition?

6. What drugs are used in the management?

7. Suppose you see a patient who has an ulcer on the penis for over 1 year. Its edges are rolled up. What would you do with it?

8. Why would you do it?

MODULE PHASE

SKILL EVALUATION

Before you are advanced to the rotation phase of training, a staff member will evaluate your mastery of the physical examination procedures and discriminations which have been identified in the modules.

You will have the opportunity to be rated on your performance of these skills at any time during the module phase that you feel prepared.

To help you prepare, the module contains a list of the skills to be evaluated. You are advised to do the following:

1. Work at perfecting your techniques of examination by practicing with another student.
2. During the clinical practice time provided, each week, practice the skills applicable to the subject being taught.
3. Have a fellow student observe and evaluate your performance.
4. When you feel you are ready, ask a trainer to observe and rate your performance.
5. If your performance is unacceptable, the trainer will give you specific comments on how to improve.
6. Practice again until you are ready for evaluation, and arrange to be rated.
7. If after two attempts you are unable to perform a skill at an acceptable level, arrange for a meeting with members of the training staff, who will help you obtain the experiences necessary for improving your performance.

MALE GENITALIA EXAMINATION
PERFORMANCE CHECKLIST

This checklist will be used by tutors/supervisors when evaluating nurse clinician performance. The student is advised to use them as a guide when practicing male genitalia examination.

	YES	NO	COMMENTS
During the examination, the nurse clinician should follow this procedure:			
1. Tell the patient about the examination.			
2. Expose the area.			
3. Inspect the following:			
- scrotum			
- glans penis			
- shaft of penis			
4. Palpate the scrotum & contents			
5. Palpate the lower abdomen for bladder tenderness and size.			
6. Percuss the loin for deep kidney pain.			