but they were soft and flabby and bled readily on dressing. After four days' treatment with flavine the wound had entirely ceased to discharge pus, and in the same time the granulations had altogether changed in character, being now firm and allowing of free swabbing without hæmorrhage.

Another noteworthy case was that of a woman with inoperable carcinoma of the breast. The growth broke down and became very septic. An incision was made and a large quantity of pus evacuated. An attempt was made to cleanse the condition with creolin fomentations, but five days' treatment yielded no appreciable results. Treatment with brilliant green was then instituted, and, in addition to thorough irrigation, about one ounce of the antiseptic was poured into the wound cavity daily and left there. After fourteen days all signs of suppuration were absent, and no toxic symptoms had manifested themselves from absorption.

My best results have not unnaturally been obtained in superficial injuries, in which free application of the antiseptic to all parts of the infected surface was possible. I have treated a number of shrapnel wounds of such type, some of them large areas of six inches square, with universally successful results with flavine. A clean surface may always be expected in such cases in four or five days, and the rapidity with which the epithelium grows in from the edges is a very noticeable feature. The absence of any deterrent effect exerted by flavine on the process of healing and growth of epithelium was strikingly demonstrated in one case in which treatment with flavine had in four days freed a large superficial area from pus and covered it with small pink granulations; at the end of this time the epithelium had grown in for a considerable distance. The wound was thereafter dressed with red lotion (zinc sulphate 1 gr. to water 1 oz.) and the immediate slowing up of the epithelial ingrowth was remarkable.

Mention must be made of a case under my care in which the antiseptic was applied before suppuration had time to develop. The patient, a man, had all the structures on the anterior surface of the arm just above the elbow-joint severed by a pane of glass. The wound was very dirty, and in it were portions of clothing. Within three hours of the infliction of the injury the foreign bodies were removed under a general anaesthetic, and the whole wound thoroughly washed out with brilliant green; the various structures were then carefully sutured, the muscles with linen and the nerves with fine catgut. A gauze drain was inserted but soon removed. The wound healed by first intention, and the man has now a good arm, the result of the nerve suture being equal to that obtained after primary nerve suture under the best conditions.

My opportunities for this early application of the antiseptic before the evidence of sepsis has appeared have, so far, been few, but from such cases as that cited and others of similar nature which I have observed, I consider that results of the highest value are to be anticipated in the future by what one may term the "prophylactic" use of these antiseptics.

I have used considerable quantities both of brilliant green and flavine over prolonged periods; in some cases I had no hesitation in injecting the latter antiseptic into the tissues, and have never observed any toxic phenomena following their use. In one case, of an amputation stump treated with brilliant green, a considerable rise of temperature occurred, and was thought at first to be perhaps due to absorption of the antiseptic, but blood culture yielded a pure growth of *Staphylococcus aureus*; meanwhile the stump itself showed very definite improvement. Of the two antiseptics investigated I have found flavine to be the more efficient, especially in heavily infected wounds with free discharge of pus, and I now use this antiseptic exclusively for septic cases. I regard these substances as satisfying therapeutic requirements for the treatment of wounds in a manner superior to any of the antiseptics hitherto employed.

THE late Dr. Alexander Ballantyne, of Dalkeith, left estate valued at £20,993.

YALE UNIVERSITY has established a board of health for the sanitary supervision of students. The conditions under which they live and work will be investigated, and, where necessary, improved. All students taking part in athletics are to be submitted to careful examination.

Lectures

ON

DISEASES OF THE MALE URETHRA.

BY

FRANK S. KIDD, B.C., M.B.CANTAB., F.R.C.S.,

ASSISTANT SURGEON, LONDON HOSPITAL, AND SURGEON
TO THE GENITO-URINARY DEPARTMENT.

LECTURE III.—COMMON METHODS OF EXAMINATION AND TREATMENT.

FILMS FOR MICROSCOPIC INVESTIGATION.

1. To Prepare a Film of Meatal Pus.

TAKE a platinum loop and dip one corner in the secretion that can be squeezed from the meatus. Spread this out with a circular movement on a slide so as to make a thin even film. Fix by heat, stain for a few seconds with borax methylene-blue, wash under the tap, dry by heat, and examine under a drop of cedar oil with a $\frac{1}{2}$ in. oil immersion lens.

2. To Prepare a Film of Prostatic Fluid.

Ask the patient to pass water, and shake the urethra free of drops. Massage the prostate of the kneeling patient until several drops of secretion drip from the meatus. Collect a drop on a slide, make a film and stain as above. Look especially for pus cells (evidence of inflammation). Do not be disappointed if you cannot find bacteria. Pus cells are of far more moment than bacteria.

3. To Prepare Films of Threads.

Fish the threads out of the urine by means of a platinum loop and spread them out with a circular movement on to a slide. Blot away superfluous moisture. Dry by heat, stain, cover with Canada balsam and a cover-glass and examine as before.

THE IRRIGATION METHODS OF JANET.

One of the most notable advances in diagnosis and treatment is the method evolved by Janet of irrigation of the urethra. Practice in this method is one of the first essentials for a man who wishes to study diseases of the urethra.

Apparatus Required.

A glass, metal, or rubber receptacle capable of holding two or more pints of fluid, which can be raised or lowered at will to a height of at least five feet above the level of the patient's urethra. The advantage of glass is that the fall of the fluid can be observed, especially if the glass is graduated. To the lower end of the receptacle should be fitted six to nine feet of rubber tubing provided with a simple clip or, better, a spring clip. To the free end of the rubber tubing is attached a urethral nozzle of some kind. I employ nickel nozzles made to my design by Montague and Co. (69, New Bond Street). Failing a special nozzle, a simple piece of tapered glass tubing with a smooth opening will suffice. The ideal irrigator for large clinics is made in the form of a lift let into the wall, which can be raised by means of a handle. This has been designed for my private use by the Titan Lift Company, and I cannot too warmly recommend it. Failing this it is an easy matter to rig up a system of pulleys; or the irrigator can be hung on to a nail or picture-hanger on the wall. I have designed a portable irrigating apparatus for the use of patients, which is supplied with printed directions by Montague. In the army, I believe, a pail is used, raised on a shelf, the rubber tubing being attached to a bit of glass tubing bent and used siphon-wise. This is a useful plan where no special materials are to hand.

The Method of Anterior Irrigation.

The patient lies on a couch with a pot between his legs, or he can sit over a sink or in a bath, or he can stand or sit wearing a mackintosh apron with the penis projecting through a small hole cut in the mackintosh and the lower end of the mackintosh folded gutter-wise into a pail.

The irrigator is filled and raised three to four feet only, so as to get a fair head of fluid, yet one not sufficient to force the sphincter and penetrate to the deep urethra. The operator grasps the rubber tubing just above the stem of the nozzle with the fingers and thumb of his right hand,

releases the clip, and controls the fluid with fingers and thumb only. With his left hand he takes the penis between the middle and ring finger, the back of his hand being towards the abdomen, and with the first finger and thumb he opens out the meatus. He then inserts the mouth of the nozzle just inside the meatus and allows the fluid to flow into the urethra. The fluid flows as far as the bulb, when it meets the resistance of the compressor urethrae muscle ("cut off muscle"). It then flows back and flows round the mouth of the nozzle and falls into the pot or pail.

By pressing the nozzle to and fro quickly a little more into the urethra and then withdrawing it slightly the operator endeavours very gently alternately to balloon and collapse the urethra. In this way the folds of the urethra are ballooned out every other second so that the fluid gets at the whole mucous membrane. This trick is hard to describe, but is soon learnt at a practical demonstration. Especially when dealing with acutely inflamed urethras the very utmost gentleness must be used.

The washing goes on till two or three pints of fluid have been used if treatment is being carried out, or until the washings come away clear of pus and threads if the method is being used for diagnosis. For diagnosis sterile water can be used, or better still 1 in 4,000 mercury oxy-cyanide. For treatment of acute cases of urethritis you should generally employ a solution of potassium permanganate in varying strength—1 in 4,000 in acute cases, 1 in 2,000 in subacute cases, 1 in 1,500 or even 1 in 1,000 in chronic cases.

The Method of Posterior Irrigation.

The irrigator is raised to a height of 5 ft. The operator first washes out the anterior urethra with half a pint or so of wash. He then gently advances the nozzle so as to block the urethra completely. The patient is told to relax his muscles, to turn his attention to other things, or to imagine he is passing water with the idea of relaxing the "cut off muscle." (To aid in this for the first few sittings it is advisable to inject before the treatment a drachm of 2 per cent. novocain or stovaine solution into the urethra with a hand syringe or a boiled stylo filler, and ask the patient to hold this in the urethra for some minutes with the finger and thumb. This desensitizes the urethra, and the compressor reflex is lessened or abolished.) If the patient can be got to relax his muscle, a trick which he may not learn till after several sittings, then the fluid flows past the muscle into the deep urethra and fills the bladder. At the end of the sitting the patient rises and passes out the wash. In this way a thorough flushing of the deep urethra and bladder is obtained, without the need of passing any catheter, with its attendant complications and difficulties of passage and sterilization. The deep urethra and bladder can thus be given antiseptic washes in the most simple and effective manner.

I cannot too carefully warn my hearers against using roughness and force in their manipulations. The process is one that requires patience and tact, not force. Do not worry if you cannot get the wash through at the first few sittings. Use these as lessons to train the patient in learning the trick of relaxing the sphincter. Once he learns the trick, the fluid passes through with the greatest ease and can then do no harm. But if an attempt is made to force the fluid through in the first sitting against an unwilling sphincter, it may cause severe pain, and may make the trouble worse, and even set up epididymitis. It is better to desist than to employ force. Sooner or later the patient will let the fluid in quite easily.

Again, do not try at the first few sittings to press more than a few ounces into the bladder. Later on the patient will take half a pint easily, but at first he will usually only take an ounce or two. This is quite sufficient to diminish the inflammation of the deeper parts. Again, do not try to use too strong washes at first; begin with quite weak ones, such as potassium permanganate 1 in 5,000, and only work up gradually to stronger ones such as 1 in 2,000 at the strongest. On no pretence whatever employ a height of more than five feet. In Germany I have often seen them raise the irrigator to as much as ten or eleven feet so as to overcome the sphincter by force rather than persuasion. This is the greatest mistake that can be made; it is brutal and unnecessary, and defeats its own object.

Indications for Janet's Irrigations.

1. *Anterior irrigations* are used for treating urethritis, both anterior and posterior, from the earliest stages; for washing the anterior urethra free of pus in the diagnosis of acute early cases; and invariably before the passage of any urethral instrument, except the urethroscopic tube. If used before this they spoil the picture.

2. *Posterior irrigations* are used chiefly in subacute or chronic cases, at least five or six weeks after the onset of the discharge, and when the deep disease is dying down by natural resolution. They should never be used in early acute posterior cases unless the patient is lying up in bed, and unless the doctor is an expert, and then only under exceptional circumstances—for instance, in joint cases, and then only in weak dilutions, such as 1 in 8,000 to 1 in 5,000 potassium permanganate. Posterior irrigations are also most useful in cases of *chronic* cystitis, and should always be employed (mercury oxycyanide 1 in 4,000) before a bougie or catheter is passed into the bladder.

Urethral Nozzles.

The most primitive form consists in some inches of glass tubing tapered at one end into a cone, so as to be able to enter and block the urethra. The objection to this is the splashing. A development is seen in the provision of a mushroom-like shield on the wall of the nozzle made of glass, as in the Ryan or Wyndham Powell nozzle. For use in large clinics Montague has made me a modification of the Wyndham Powell nozzle. The shield is of rubber, so cannot break. The stem is of non-rusting metal. The nozzles are of non-rusting metal, and are detachable. The shield and stem are kept in weak lysol solution, and the nozzles are detached and boiled after each wash. For the use of patients in small clinics I have designed a smaller nozzle and shield, all in one piece, made of unrustable metal, which can be boiled, and which cannot break.

INJECTIONS.

If the patient cannot attend daily for irrigations, or if for any reason it is not possible for him to use the portable irrigating apparatus himself (which is true of most hospital patients) then it is necessary to employ injections with a hand syringe. The danger of such injections is that the patient may not sterilize the syringe before use, so that he develops secondary infections which are more difficult to cure than pure gonococcal infections. This is the real danger of injections. There is an old bogey widely taught in the schools that there is danger of forcing the injections too far back. I cannot too emphatically repudiate this absurd idea. The sphincter muscle sees to it that the patient does not push the injection into the deep urethra, and even if it does let the injection back it can only do good and no possible harm. This idea ought to be laughed out of court. If a urethra is so little inflamed, and consequently so insensitive, that the sphincter lets an injection through into the bladder and deep urethra, then the injection can only do good and no possible harm.

For out-patients I am accustomed to order a cheap glass syringe, and the patient is given exact printed directions, first how to sterilize it, secondly how to use it.

They are as follows:

Directions for Injecting (Out-patient Practice).

1. Buy a glass syringe at the hospital dispensary, where you will also obtain the bottle of injecting fluid ordered by the doctor on your book.

2. Buy a small saucepan with a cover, and a small cheap cup. After you finish injecting (and also before you inject for the first time)—

3. Place the syringe and the cup in the saucepan and cover with a little water; raise the water to boiling point, holding the saucepan over a fire or spirit lamp.

4. Place the cover on the saucepan and put it aside to cool in a safe place.

To inject—

5. First pass water. Then take the cup out of the saucepan and empty it. Pour into it a little of the injecting fluid out of your bottle. Pick the syringe out of the saucepan and suck up the injecting fluid into the syringe. Place the nozzle of the syringe very gently inside the mouth of the canal. Fill the canal with injecting fluid, withdraw the syringe, and by means of the finger and thumb hold the fluid inside the canal for two minutes; then let it out.

6. Inject at least twice a day, and if you can possibly manage it, you will get well quicker if you inject three, or even four, times a day.

For private patients I have devised an injecting outfit known as my outfit A, and to be obtained at Wallas and Co., 36, New Cavendish Street. The box contains a glass tube with a rubber stopper. The syringe is placed in this and the tube filled with water. Tablets of corrosive sublimate are provided, one of which is also dropped into the tube and makes a solution of 1 in 1,000. This ensures that the syringe is always kept germ-free. Another space in the box contains a 4 oz. bottle of injecting fluid.

When the patient syringes he washes his hands and then passes water. He then removes the syringe from the tube, pulls back the piston and unscrews the nozzle of the syringe. He then fills the open barrel of the syringe from the bottle of injecting fluid, and screws on the nozzle. He then fills the urethra from the syringe, and holds the injection in for two minutes. He then drops the empty syringe back into the tube, corks the tube, and the sitting is over.

He should inject at least three times and better four times a day. Potassium permanganate is used in strengths of 1 in 3,000 for acute cases, 1 in 2,000 for subacute cases, and 1 in 1,500 and 1 in 1,000 for chronic cases. The syringe is of four-drachm capacity and has a smooth conical vulcanite nozzle which fits the urethra snugly and cannot damage it.

I cannot too strongly condemn those forms of syringe which are often recommended and sold especially by chemists where a catheter or long tube is attached to the syringe for passing down the urethra. These damage the inflamed urethra, and may lead to severe secondary infections. Syringes with a screw piston are unnecessarily complicated and expensive. I find the syringes in my outfit A were all made in Germany, so that it is not possible to obtain them now. Wallas and Co. are now making for me a two-drachm syringe with a rubber tip. This has to be inserted into the mouth of the bottle containing the injecting fluid, the bottle inverted, and the syringe filled by suction, not altogether an ideal method.

FLUIDS FOR INJECTIONS.

One recent book recommended something like fifty different injecting fluids. A man who needs to recommend a lot of fancy injections is a man who does not understand how to drive the lurking cocci out of its special lairs, such as the prostate, the glands of Littre, and submucous infiltrations. If your injections are not curing the disease do not blame the injections. Blame your lack of urethral knowledge. Try increased strengths of the old injections, and, above all, examine the prostate and use the urethroscope. If a man understands his job he will find that only a few different kinds of injecting fluid are required.

1. For acute cases and for most chronic cases there is nothing to be compared to potassium permanganate in strengths from 1 in 4,000 to 1 in 1,000, varying with the acuteness of the inflammation.

2. In the later stages an astringent injection may be used. The best is zinc permanganate in strengths of 1 in 8,000 up to 1 in 2,000.

3. In a few chronic cases silver nitrate may prove helpful as an astringent in strengths of 1 in 5,000 to 1 in 1,000.

4. In cases of secondary infection nothing is better than mercury oxycyanide in strengths of 1 in 2,000.

With these four injecting fluids I will undertake to cure almost any case of urethritis. Failure with these means failure to detect a soft stricture, an infected gland of Littre, or latent prostatic or vesicular collection.

I do not deny that there are many antiseptics that are useful, but what I strongly maintain is that these four are excellent antiseptics for urethral use, and that it is far better to familiarize yourself with a few simple formulae of proved utility rather than to be always changing your formula in the hopes of stopping a discharge. I repeat, if a discharge persists, it is not the fault of the antiseptic; it is due to your failure to detect a lurking cause of relapse.

My experience in practice is that preparations of colloid silver and iodine are not needed, and are sometimes harmful, especially as they are often prescribed in too great strengths. Protargol, for instance, stops the discharge, it is true; but I find that when prescribed, as it usually is, in excessive strengths it leads to soft strictures, which are very troublesome to cure. For this reason I advise you not to prescribe injections of protargol, argyrol, iodargol, and so forth. I am sure they are often harmful, as they are usually prescribed in excessive strengths, and are rather expensive.

While on the subject of injections I want to warn you against another practice, and that is the use of medicated bougies. It is so easy to prescribe these, and the patient takes to the idea of shoving strongly medicated substances up into his urethra. I quite agree that they may appear to diminish the discharge, but I find that they often lead to most troublesome soft strictures. But worse than that, I find that they may lead to severe forms of secondary infection, as it is not always possible to secure that their surface is kept clean before being thrust into the urethra. The point is that these patent antiseptics and medicated bougies are not needed at all in the cure of urethritis if a man understands his job. If a man knows how to use the simple injecting fluids I have mentioned, and if he knows how to control his results by observations on the prostate and urethra, then he will find no need for these makeshifts of the inexpert.

(To be continued.)

TWO CASES OF REMOVAL OF FOREIGN BODIES FROM THE EYE.

By HENRY T. KELSALL, M.D., B.S.LOND.,
M.R.C.S., L.R.C.P.,

HONORARY OPHTHALMIC SURGEON, PERTH PUBLIC HOSPITAL,
WESTERN AUSTRALIA.

The following notes concerning the removal of foreign bodies from the vitreous chamber of the eye will, I trust, prove of interest:

1. L., aged 32, an Italian employed in machinery work on the goldfields, came to the Perth Hospital stating that he was struck on the left eye three days previously by a piece of metal, probably steel. The eye was comparatively quiet, but on careful inspection a small scar was seen towards the outer part of the left cornea (the wound of entry), and behind and slightly outwards from it another wound of the iris. Vision was only slightly impaired, and after dilatation no foreign body or other disturbance could be observed by the ophthalmoscope except a slight haemorrhage on the outer side.

A skiagram gave a positive result, showing the presence of a piece of metal. After localization by the aid of the x rays and having regard to the oblique direction in which the steel had evidently passed, it was determined to perform a posterior sclerotomy behind the dangerous area through the insertion of the external rectus muscle. A preliminary trial with Haab's magnet gave no result at all. Under cocaine and adrenalin, after dissecting off the superficial structures, an antero-posterior incision was made through the sclerotic for one-third of an inch. The sterilized small point of an electro-magnet then introduced into the wound attracted the foreign body at the first attempt, and it was removed. It proved to be a scale of iron 2 mm. by 1 mm. There was no escape of vitreous.

The eye made an uninterrupted recovery, and the patient, when seen about two months after the operation, had vision 3 and J. 1, with no untoward symptoms whatever.

The second case I saw in consultation with my friend and colleague Dr. Paton, who asked me to admit the patient to the Perth Public Hospital. Dr. Paton was present at the operation and kindly assisted me.

2. W. L., aged 36, a machinist, married, was struck on the right eye by a piece of steel on November 1st, 1915. The left eye was blind owing to an injury received several years previously.

The foreign body had penetrated the upper eyelid at the junction of the middle and outer thirds, and about half an inch from the palpebral border. It could be seen after dilatation of the pupil by atropine as a long black object lying in the vitreous obliquely, there being very little haemorrhage to obscure the view. A skiagram showed a large piece of metal