Never perform a radical operation for cancer of the bowel when there is obstruction. Drain the bowel by a cæcostomy, and resect the growth at a later stage.

Patients with a malignant stricture of the œsophagus die more often from lung complications than from starvation. The commonest cause of death is not starvation, but broncho-pneumonia. This being so, it may be argued that gastrostomy is not of much value. I believe that when a patient has difficulty in swallowing, he is made more comfortable and life is prolonged by a properly performed jejunostomy. I advise jejunostomy as an operation far preferable to gastrostomy in the treatment of carcinoma of the œsophagus. If any operation is to be done, it should be performed *early*, as soon as the diagnosis is certain. It is useless to wait until the patient is weakened and emaciated by inability to take sufficient nourishment.

**Carcinoma
of the
œsophagus.**

Do not be in a hurry to operate for the removal of a ureteral calculus, because it is probable that sooner or later the calculus, if it be a small one, will be passed. If you do decide to operate, be sure that the calculus has not been passed in the meantime. A skiagram should be taken as near as possible to the time fixed for operation, and all urine passed after the X-ray examination should be filtered through muslin, so as to be sure that the stone has not been passed subsequently. I have known a stone passed between the taking of a skiagram at 11.30 a.m. and 2 p.m., the time at which it was intended that operation should be performed.

**Ureteral
Calculus.**

THE USE OF CATHETERS.

BY J. SWIFT JOLY, F.R.C.S.

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PROBABLY the oldest catheter in existence is the bronze one which was found in the "House of the Surgeon" at Pompeii, and is now in the Museum at Naples. The details of the eye, and the general finish, show that the maker not only possessed great skill, but was accustomed to work of this nature. The instrument has a curious open curve, resembling that of the old-fashioned "long S." Incidentally a modern gum-elastic catheter, if tied in the urethra for a few days, will usually have a similar curve on withdrawal.

I merely mention this instrument to show that 2,000 years ago catheters were a recognized part of the surgeon's armamentarium.

Modern catheters are usually classified according to the material from which they are made, and we speak of them as metal, soft rubber or gum elastic. They are also classified by their curve, or the details of their beak or eye.

Metal catheters were formerly of silver, but are now made from brass tubing, and are nickel plated. They are easily sterilized by boiling, have a large lumen in comparison with their size, and last indefinitely. They have the disadvantage of being rigid, and are therefore more difficult to introduce than the flexible ones. In unskilled hands they may do serious damage to the urethral wall, and should never be recommended for self-catheterization.

**Metal
Catheters.**

In the older instruments, the eye was often a narrow slit in the lateral wall. It was shaped thus in order to prevent injury to the urethra during introduction. With a

narrow eye, however, it is almost impossible to clean out blood-clot, &c., which may accumulate in the lumen of the instrument. It is much better to have the eye wide, and to obturate it with a flexible mandril during introduction. This is done in Bigelow's evacuators.

Formerly all catheters were made of metal, but since the introduction of soft rubber and gum-elastic instruments rigid catheters are not much used, except under special conditions. A large metal catheter, with a very full curve (the prostatic catheter) is occasionally useful for a patient suffering from an enormously enlarged prostate. These cases, however, are comparatively rare, and a gum-elastic instrument is usually more satisfactory. A soft catheter may be held up by spasm of the compressor urethræ, while a metal instrument slips through. On the other hand, spasm can be relieved by the injection of 5 c.c. of a 2 per cent. solution of novocain. In my opinion, a metal catheter is often best for dealing with cases of stricture complicated by retention. A small plain catheter should not be used for the purpose, as there is a grave risk of making a false passage. One should have a No. 1 or 2 English metal catheter with a screw cut on its tip which will take the thread of the filiform guide of a Maisonneuve urethrotome. The guide is first passed through the stricture. The catheter is then attached to it, and there is usually no difficulty in passing it into the bladder. One must take care that: (1) The guide is really through the stricture and not coiled up in front of it; and (2) that the point of the catheter follows accurately the line of the urethra, and that no kink is made at its junction with the guide.

The soft rubber catheter is very largely used, especially for self-catheterization. It has the advantage that it can be sterilized by boiling, and is so soft that it is almost impossible for it to damage the urethra. It, however, has its disadvantages. Its surface is not so highly polished as a metal or gum-elastic instrument, and therefore requires much more lubricant. Its lumen is small in comparison with the size of the instrument, which renders it unsuitable for tying in the urethra. In many cases it fails to penetrate into the bladder. It may be held up by spasm of the compressor urethræ, or by pressure of the lateral lobes of the prostate, when a prostatic patient is in a state of acute retention. But, to my mind, its most serious drawback is that it very easily becomes infected during introduction. It is so soft that it buckles unless it is held very close to the urethral orifice. This means that the catheter is passed inch by inch, and is thus fingered from end to end during the process. A patient on self-catheterization may sterilize his instrument, but be careless over his hands, and may contaminate the catheter during introduction. A metal or a gum-elastic catheter can be passed without touching any part of the instrument that enters the urethra, but this is impossible with soft rubber catheters.

There is one other point which should be borne in mind in connection with these instruments. The rubber tends to perish and when it does it becomes very brittle. A perished catheter may look quite good, and yet have lost its elasticity. One should test this by stretching the instrument before boiling it. If it has lost its elasticity it should never be used. A perished catheter may easily break in the bladder. Most of the broken catheters I have been called upon to remove from the bladder were composed of soft rubber.

The gum-elastic catheter is probably the best for general use. The old objection that it would not stand boiling is no longer true. Modern gum-elastic instruments can

be boiled repeatedly if certain precautions are taken. The most important of these is to see that the instrument does not touch either the bottom or the sides of the vessel in which it is boiled. The outer parts of the vessel being in contact with the gas flame are very much hotter than the boiling water, so if the catheter comes in contact with them, the varnish melts and the instrument becomes useless. A proper sterilizer with instrument tray is perfectly safe, as the tray protects the catheter from undue heat. The sterilizer should be long enough to take the catheter without bending it. If, however, the catheter has to be sterilized in an emergency without the proper facilities, it should be wrapped in a piece of lint or a small towel before dropping it into the boiling water. If an ordinary saucepan is used, the instrument is bent in a circle till its ends are touching, and then wrapped up in the lint.

It should be remembered that a catheter becomes very soft in boiling water, and its varnish can easily be damaged by rough handling. I have had instruments ruined from being grasped in a forceps with sharp teeth while removing them from the sterilizer. One should pick the catheter out gently, holding it near the proximal end, so that no damage is done to the portion that enters the urethra. It should then be dropped into a vessel of lotion at body temperature. In a few minutes it recovers its normal firmness and strength, and is fit to be passed. This method of sterilization does less harm to the instrument than prolonged immersion in an antiseptic fluid.

The further advantages of the gum-elastic catheter are : (1) its good polish, (2) its flexibility, (3) the large size of its lumen, and (4) the fact that it is the only type of instrument which is suitable for tying in the urethra.

These instruments are made with various types of points, such as the ordinary round ended, the olivary tipped, the coudé, and the bicoudé catheters. For general use I consider the coudé catheter the most useful, and if I was restricted to one type of instrument I would unhesitatingly choose it. The olivary tipped catheter is useful for stricture cases, where one wishes to pass the largest possible instrument through a narrowed urethra.

The full-sized metal catheter is steadily losing ground before a coudé mounted on a modern mandril or stylette. The latter is formed of stiff wire, which can be bent, if necessary, to alter the curve. A coudé catheter on a mandril is the best instrument for difficult prostatic cases. If the point of the catheter is held up by the middle lobe of the prostate the mandril should be withdrawn about half an inch. This renders the terminal portion of the catheter flexible, and virtually transforms it into a bicoudé. It then slides easily into the bladder. Another advantage of this method of passing a gum-elastic catheter instead of using a metal instrument is that the soft catheter can be tied in, while one has to pass a rigid one every time the patient's bladder becomes full.

The passing of these catheters is usually easy. The glans penis is carefully disinfected by swabs soaked in biniodide of mercury (1 in 1,000), or some other reliable antiseptic. If the patient has a long prepuce it should be fully retracted, and both the glans under it and its inner surface be carefully cleansed. The penis is then wrapped in sterile gauze to prevent contamination. I never touch any portion of the catheter that enters the patient's urethra, so always lift it out of the lotion by its proximal end. A few drops of an antiseptic lubricant are allowed to fall on its tip. The penis is grasped by the left hand and held vertically. The point of the instrument is insinuated into the external meatus and is passed downwards while the penis is kept stretched vertically. In this position the cul-de-sac of the bulb is obliterated and the point of the catheter

engages in the opening of the posterior urethra. There is always a certain amount of pain while it passes through the membranous portion. If the prostate is enlarged there may be a slight feeling of obstruction just before the point of the catheter enters the bladder. This may be avoided by withdrawing the catheter about half an inch and rotating it slightly to one side, but in most cases this is not necessary.

FOREIGN BODIES.

BY FRANCIS MUECKE, C.B.E., F.R.C.S.

PROBABLY no other effort, however successful, gives the operator quite the same feeling of pleasure as the quick and efficient removal of a foreign body from any of the air passages, œsophagus, or auditory meatus. The grave dangers resulting from the presence of the body, and the efforts to remove it, are too well known to need recapitulating in this short statement.

The usual foreign bodies met with are beads, buttons, or similar articles in children, ends of match sticks in adults, or fleas in either. History and inspection cannot fail to diagnose the intruder. The practical maxim here is to persevere with syringing (warm saline) unless (1) the foreign body is sharp; (2) you have reason to believe the drum is perforated; (3) it causes acute giddiness. Should syringing be unsuccessful, or contra-indicated, recourse must be had to the direct method, but only in hands accustomed to working with lamp and frontal mirror, as the danger of injuring the drum is great. An anæsthetic is essential and the operator must try and get behind the body with hook or scoop, forceps tending to slip over the object. Spirit. vini rect. 80 per cent. will suffice to kill all insects.

Auditory Meatus.

Similar foreign bodies are to be found here, especially in children, in whom a unilateral nasal discharge is generally pathognomonic. In adults it is usually a rhinolith (calcareous deposits around some nucleus). The danger here is that the foreign body may slip back during removal attempts, and perhaps lodge in larynx or bronchus. Syringing is therefore unwise. The method of removal is with head light, speculum, and an anæsthetic, to get well behind the object with a broadish hook and draw it forwards.

Nose

It is extraordinary how many people come to hospital complaining of a fish-bone stuck in the throat, and that in less than 5 per cent. of the cases is there anything present. It is indeed difficult to persuade the patient that it is the small injury due to the prick of the bone, and not the bone itself that they feel. The favourite sites of lodgment are the tonsils, pyriform fossæ, behind the cricoid, level of the aorta and the cardiac ostium.

Pharynx and Œsophagus.

False teeth, mutton bones, coins and small toys are other frequent visitors.

The first point to realize is, that only in the case of a foreign body in the neighbourhood of the larynx, and affecting the breathing, is there any grave urgency. An inspection of the pharynx and larynx with the laryngoscope will readily involve or eliminate these parts. Any froth seen behind the larynx is very indicative of œsophageal obstruction. If nothing be seen and the patient still complain of inability to, or difficulty in swallowing, recourse should be had to the X-ray. Direct screening at once discloses the presence of any foreign bodies except fish, cooked small meat bones, gristle, or similar substance, to identify which it is necessary to give a barium drink (or pellet), noticing any check to the downward passage.