cutaneous injection of 7 oz. in an infant always reduced the specific gravity several points, and the injections were repeated two or three times in the twenty-four hours until the specific gravity had fallen to a little below the normal point, to allow some margin for further loss of fluid. Dr. Coutts informed me that when he had formerly pushed the injections of normal salines to this extent the diarrhoea increased, just as it does in cholera. With the hypertonic solution, however, this is not the case in either disease, which seems to show that the stronger solution is as correct in principle in infantile diarrhoea as it is in cholera. Further, from $\frac{1}{2}$ to 1 grain of calcium permanganate was added to each pint of the fluid, with which the stomach and large bowel were washed out on the admission of the patient, in order to destroy and remove as much as possible of the toxic products in the gastrointestinal tract.

Results.

Unfortunately the new treatment was only commenced at the Shadwell Hospital about two weeks before the termination of the hot weather and the consequent rapid decline in the admissions. All that can be now said is that the above-described methods furnished sufficiently promising results to make their further trial next summer a matter of great interest and importance. Mr. J. Keogh Murphy also kindly got the method taken up in the medical wards of the Paddington Green Children's Hospital, and he informs me that the results in the few available cases were distinctly favourable. On the other hand, a trial at St. Bartholomew's Hospital during the last week or two of the hot weather did not furnish any clear indications of curative effects. Still the favourable impressions formed at the two children's hospitals appear to make it worth while to give these methods a fuller trial when opportunities occur.

Lastly, in the cholera paper referred to above I mentioned that I had been able to demonstrate *post mortem* that intravenous injections could be given in small infants with the help of fine cannulas made by drawing out a small glass tube, such as the physiologists use for registering the arterial blood pressure in small animals. The best vein to use in an infant is the commencement of the internal saphenous as it crosses over the internal malleolus. By these means a hypertonic saline injection was recently given intravenously at the Shadwell Hospital in a puny infant of 4 months old, with the result of rescuing it from extreme collapse, although death occurred three days later from asthenia. This case shows that the intravenous method can be carried out in even very small infants, so that there is good reason to hope that the use of hypertonic salines in this way may in the future allow of some desperate and nearly moribund admissions for infantile diarrhoea being revived and possibly ultimately saved.

As I am about to return to India, this note has been written in the hope that the methods which have proved so successful in cholera Asiatica may be given a full trial in infantile diarrhoea during the next summer outbreak of this devastating disease.

A NOTE ON THE SPHINCTERIC CONTROL OF THE BLADDER AFTER PROSTATECTOMY.

BY

CUTHBERT WALLACE, M.B., B.S., F.R.C.S.,

SURGEON TO ST. THOMAS'S HOSPITAL IN CHARGE OF OUT-PATIENTS;

AND

C. M. PAGE, M.S., F.R.C.S.,

RESIDENT ASSISTANT SURGEON, ST. THOMAS'S HOSPITAL.

THE mechanism of normal micturition is still imperfectly understood.

Recent experiments and the skiagrams published by Leedham-Green show that in the normal state the internal sphincter remains closed up to the time of the commencement of micturition; in other words, the prostatic urethra is not taken up into the bladder in states of moderate vesical distension.

These facts do not show that the perineal muscles have no function in micturition, they only indicate that the

striated muscles are not called into play in ordinary circumstances.

When a prostate enlarges the adenomatous mass sometimes works its way through and distends the sphincter to such a degree as to render it probably useless. After removal of such a tumour the internal sphincter remains as a patent ring.

Examinations of the bladder conducted through a suprapubic wound some time subsequently to a prostatectomy have shown a small cavity (from which the adenomatous mass has been removed) still patent at the bottom of the bladder. It is argued from the presence of this cavity that the internal sphincter has not resumed its normal shape and that it cannot therefore close the bladder.

One of us has pointed out that this argument is not sound in every case, as it cannot always be ascertained that the junction between the bladder cavity and the remaining operation cavity corresponds with the situation of the internal sphincter. In addition other observers have stated that cystoscopic examination after prostatectomy shows a normal internal meatus.

We have also in our possession a skiagram of a bismuth-filled bladder, taken some months after prostatectomy, which shows a contour as round as that shown in the skiagrams published by Leedham-Green, so it must be admitted that the question of whether the bladder is con-

The skiagram was taken after the bladder had been distended with 10 oz. of bismuth emulsion under a pressure of 1 ft. of the fluid. The bladder cavity and the cavity from which the tumour was removed are easily recognized. One ureter is seen to be patent to the bladder.

trolled by the internal or external sphincter remains unsolved.

The following case, though not conclusive, seems to indicate that a man can have perfect control of micturition with a patent or patulous internal vesical sphincter.

G. A., aged 55, was admitted to St. Thomas's Hospital July 1st, 1911.

History.—For some years the patient had suffered from nocturnal frequency of micturition. There had been some difficulty in commencing the act, but no previous attack of retention. No blood was noticed in the urine. On June 23rd he was unable to void his water; a catheter was employed, and was continuously necessary till his admission on July 1st. There had been much blood in the urine for the last few days.

Operation, July 1st.—Suprapubic drainage was established under local anaesthesia, a large prostate was felt projecting well into the bladder, a considerable amount of blood was present in the urine during the following week.

Operation, July 12th.—The prostatic adenoma was enucleated in one mass, including the prostatic urethra; the growth was lobulated, and about 2 in. in diameter.

Subsequently the bladder was washed out daily. The drainage tube was removed on July 17th. On July 21st the patient got up. On July 25th, the suprapubic wound being still open, a catheter was tied in to the urethra; this was removed on July 31st. On August 4th the patient voided his urine naturally. The suprapubic fistula was completely healed on August 12th. The patient left hospital on August 18th. The skiagram was taken on August 4th.

The skiagram shows the bladder cavity continuous with the cavity from which the prostatic adenomata were removed. As the prostate had a distinct intravesical pro-

jection, the internal sphincter must have been stretched considerably. Its situation is presumably at or just distal to the ledge or shelf forming the separation between the two cavities. If this presumption is right, the internal sphincter could not have had any effect in controlling the urine, and it must be supposed that a man can have normal micturition without an efficient internal vesical sphincter.

A DANGER IN ELEVATING THE LOWER THIRD MOLAR.

By F. St. J. STEADMAN, D.P.H., M.R.C.S.,
L.R.C.P., L.D.S.ENG.

DENTAL SURGEON, METROPOLITAN HOSPITAL, ETC.

THOUGH cases of the nature here reported may not occur frequently in the experience of any one medical practitioner, they are attended by considerable risk of serious consequences, and I have therefore deemed it my duty to place these notes on record.

About two years ago a young woman, aged 24, came to me complaining of pain round the angle of the mandible on the right side. She was found to have a badly impacted third molar. This tooth was lying with its long axis practically at right angles to and close up against the adjacent second molar, only a small portion of the posterior cusps being visible. The tissues round about were slightly inflamed. Externally there was slight, but nevertheless distinct, swelling. Most fortunately, in the light of subsequent events, there was no trismus. Immediate removal of the offending tooth was decided upon. The patient was placed under gas. Not much difficulty was experienced in displacing the tooth from its bony socket with the straight elevator, but the gum behind the tooth not only failed to stretch to allow the tooth to be completely removed, but it was very loosely attached to the bone; consequently the tooth became lodged on the bone but underneath the gum. Just at this critical moment, while I was disengaging the elevator to make an incision through this piece of gum, the patient commenced to struggle as she was beginning to recover from the anaesthetic, and my elevator accidentally gave the tooth an inward push, causing it, to my great surprise, to disappear. Knowing that the tooth was too much entangled in the gum for it to have become suddenly free and so swallowed, I realized at once that it must be somewhere in the tissues of the neck. I found it about one inch below the angle of the jaw. It could be distinctly and easily felt beneath the skin, and, indeed, picked up with it. I immediately asked the anaesthetist to reapply the face-piece, and while the patient was again being anaesthetized I had an opportunity to think over my next course of procedure. It was obvious I had three courses open to me: (1) To attempt to bring the tooth back the way it had gone; (2) to make an incision over it through the skin and so remove it by that route; or (3) to leave it where it was for the time being. Seeing that the tooth had passed along the inner side of the bone, and that as the deep cervical fascia is attached along its lower border it must be lying deep to this, and that therefore the danger of setting up Ludwig's angina must be great if I left the tooth where it lay, I decided that I must at all costs remove it. I determined to attempt the first course, and failing this to proceed at once with the second. Upon the removal of the face-piece I made an incision about an inch long through the piece of gum which had caused the trouble, with a pair of blunt-pointed scissors. I then passed the first and middle fingers of my left hand into the mouth and placed my right hand over the tooth, on the outside. By pressing fairly forcibly down with my left hand I managed after a little trouble to get the fingers of both hands below the tooth. It was then found to be easy to work the tooth upwards along the path it had travelled until it lay on the inner plate of the angle of the bone. Then, by pressing it against the bone, I managed to work it through my incision into the mouth. These manipulations had to be carried out quickly, because during them my left hand was pressing the tongue forcibly backwards, causing the patient to become cyanosed. Beyond prescribing a mouthwash, no special after-treatment was adopted, and the wound healed well.

Looking back, it is clear that the incision which I subsequently had to make should have been made at first. In this case it could easily have been done because there was no trismus, but where this condition is present in a marked degree it might be extremely difficult.

H.M.S. *Medina* has been fitted with Berkefeld pressure filters for the purification of the drinking water during their Majesties' voyage to India.

ON November 16th the Princess Louise, Duchess of Argyll, opened the new Out-patient Department of the Paddington Green Children's Hospital. The extension has cost £11,000, towards which the Committee of King Edward's Hospital Fund for London had contributed £2,250.

A NOTE ON SPRENGEL'S DEFORMITY.*

BY

ALEX. MITCHELL, M.A., M.Ch.,

ASSISTANT SURGEON, ABERDEEN ROYAL HOSPITAL FOR SICK CHILDREN.

THE condition of congenital elevation of the scapula, known as Sprengel's deformity, and defined as "a congenital deformity consisting in an upward elevation of the scapula in its relation to the thorax and to the scapula of the other side," seems to be rare enough to justify the publication of the following case.

M. B., female, aged 6 years, was sent to hospital by Dr. Milne, of Torry, on November 11th, 1910.

History.

No point bearing on the case was made out from the family history. The birth was said to have been difficult, necessitating the presence of two medical men and the use of forceps. Soon after birth it was noted that the child would not use its left arm freely, and that the shoulder on that side seemed to be high as compared with the other one.

Condition on Admission.

The patient is a well nourished, healthy child, and is very intelligent. The left shoulder is distinctly higher than the right one. The clavicle is shorter, and the arm is in every measurement smaller. Flexion at the elbow is almost complete, but extension is limited—about 135 degrees. At the shoulder she cannot raise the affected arm above the horizontal position.

Measurements show that on the affected side shortening is present to the extent of $\frac{1}{2}$ in. in the clavicle, $\frac{1}{2}$ in. in the upper arm, $\frac{1}{2}$ in. in the forearm (radial side), $\frac{1}{2}$ in. in the glove measurement of the hand.

The angle of the scapula is $1\frac{1}{2}$ in. higher from the iliac crest, and $\frac{1}{2}$ in. further from the mid line. The scapula itself is distinctly smaller, the measurement from spine to angle being $\frac{1}{2}$ in. less than on the right side. The spine is unduly prominent, but no actual bony exostosis is present. There is a slight degree of scoliosis, convex towards the affected side.

Skigrams confirm the abnormal size and position of the scapula, and show that there is no evidence of dislocation or any sign of old injury about the humerus or the scapula.

The second and third left toes are "webbed," but skigrams do not show any bony abnormality here.

While it is important to remember that primary high scapula must be distinguished from the high shoulder got along with torticollis and advanced scoliosis, it would appear that other congenital defects are frequently found along with this deformity. No electrical responses were obtained over the lower part of the left trapezius muscle. Otherwise the electrical reactions were normal.

That this condition is a rare one is shown by the fact that up till 1906 only 99 cases had been put on record; 47 of these showed a right-sided, 36 a left-sided deformity; in 11 cases both sides were elevated. Particulars as to the other 5 cases seem to be wanting.

Since our case was shown, 4 cases have been put on record by Mr. Greig of Dundee—2 left and 2 right-sided. Three definite varieties of the deformity are described:

1. In which there is a bridge of bone connecting the scapula with the vertebral column.
2. A long piece of bone projects from the upper border of the scapula, but does not articulate with the spine.
3. The scapula shows no bony outgrowth.

The last type is by far the most common, and, as pointed out by Greig, it is questionable if those cases in which the scapula is connected with the spinal column by a bony outgrowth should be classed as "primary congenital elevation of the scapula."

With regard to the etiology of the condition various views have been put forward. That it is due to a constrained position of the fetus, as in two of Sprengel's cases, in which the arm appeared to have been fixed *in utero* behind the back of the child. Such a condition as this may be associated with deficiency of liquor amnii.

Trauma during labour has been regarded by some as a likely cause.

According to Chievitz the condition is explained as being caused by interference by pressure with the descent of the upper extremity, which is, in its origin, a cervical appendage. It must also be remembered that in several cases muscular reactions have been found wanting or defective in certain parts, especially over the lower part of the trapezius, which would suggest a primary muscular defect as the cause of the deformity.

*Read before the Aberdeen Medico-Chirurgical Society.