for treatment. Had been in Guy's and St. Bartholomew's Hospitals and under private medical attendance. He was in good general health. Passed urine every two hours; this came mostly in drops, with now and then a fine stream. Urine acid; some muco-pus. No scar in the perineum. Penis 3¼ in. in circumference. The urethra admitted No. 32 F. (20 E.) sound easily for 4½ in., at which place the stricture began.

On six different afternoons after admission, vain attempts were made to introduce an instrument to the bladder. On the 14th July, chloroform having been given, No. 8 F. (2 E.) silver catheter was passed and tied in. Three days later urine flowed freely; the silver catheter was withdrawn, and No. 9 F. (3 E.) flexible was passed and tied in. On the 20th, catheter withdrawn under ether, and Syme's grooved-shouldered staff passed to the bladder. After the stricture had been divided from without, No. 32 F. sound passed easily into the bladder; No. 26 flexible catheter was tied in. On the 22nd, catheter was removed. A slight rigor occurred (temperature 103° F.) in the afternoon, half an hour after passing urine. On the 25th No. 26 was passed; and on August 15th No. 25 was passed. On the 26th the wound was not quite healed, and patient drew off the urine by No. 24 flexible catheter. On Oct. 7th he called, in excellent health. Passed No. 24 bougie once a week. Going back to the Cape.

In May, 1878, he wrote from the Cape, saying that the stricture was beginning to contract; No. 20 was now tight.

CASE 8. *Stricture for twenty years, very slight; incised two and a half years later; in good health.*—C. W——, age sixty, admitted July 19th. Thirty years ago had gonorrhœa. Ten years afterwards he found difficulty in passing his water. Had No. 8 catheter passed. He got well for three years, when he again experienced the same difficulty.

On July 20th, No. 23 F. passed easily for four inches and a quarter. Mr. Hill passed a very fine bougie, No. 1 F. (¼ E.), into the bladder, and a No. 2 F. catheter. They were then withdrawn. Next day the patient was taken into the operating theatre and etherised. After a rat-tailed guide bougie had been passed, No. 2 F. (½ E.), the split sound was screwed to its end and passed into the bladder. The stricture was cut, and No. 31 F. sound passed into the bladder; No. 26 F. flexible catheter was tied in. In the night had a rigor; temperature 103° F. On the 23rd No. 23 F. was passed without pain, and water was withdrawn. On the 26th No. 25 F. was passed. Patient himself passed No. 23 F. On August 21st he was discharged with No. 26 F. sound, having instructions to pass it every other day.

On Dec. 31st, 1877, he wrote stating that he passed No. 26 every fortnight. Was well in all respects.

CASE 9. *Multiple stricture; internal division.*—R. A——, aged forty-four, labourer, was admitted July 27th. There was one stricture half an inch from the meatus, another at three and a half inches. He complained of great pain every time he made water, which was every ten minutes.

On August 2nd the stricture near meatus, No. 18 F. (9 E.) was cut with Otis's meatotome; that at three and a half inches, No. 11 F. (4 E.), by the dilating urethrotome, and a No. 28 F. sound was passed, and a catheter tied in. The catheter was taken out on August 3rd. On the following day Nos. 19, 20, and 22 F. sounds were passed. On the 6th there was no pain in passing water; 22 F. was introduced easily. On the 7th the patient was discharged, able to pass No. 24 F. flexible sound himself.

CASE 10. *Single stricture; internal division.*—W. H——, aged fifty, admitted August 9th. Had had gonorrhœa thirty years before. Had not a stoppage of water, but the stream had got much smaller. Micturition was painful.

On the 12th a stricture two inches and a half from the meatus admitted No. 11 F. (5 E.) It was divided by the dilating urethrotome to the full size (No. 30 F.), and then a lithotomy tube the size of No. 30 F. was tied in. On the 13th patient had a rigor; temperature 102°. Lithotomy tube taken out. On the 15th he had another rigor after passing urine in the afternoon; temperature 102·4°. On the 16th, temperature, 11 A.M., 99°. No pain in passing water; no blood. On the 18th the temperature was 98·8°. No. 25 F. passed the bulb.

21st.—To be discharged and attend weekly to have No. 26 passed to bulb.

Sept. 25th.—Has attended several times. No. 23 passed easily. A bougie (No. 23) ordered for him.

CASE 11. *Meatus-stricture; incision; No. 30 passed easily.*—M. M——, aged twenty-four, was admitted on August 12th. Two years before he had catheters passed, at first No. 6, and afterwards smaller ones. On August 12th the stricture, being only half an inch from the meatus, was cut by Otis's meatotome, and No. 30 F. sound was passed. As there was free bleeding, a lithotomy tube four inches long, equal to No. 30 in size, was tied in for twenty-four hours. On the 14th No. 22 F. (12 E.) was passed, and on the 15th Nos. 25 and 30 F. were easily passed. On the 19th No. 30 F. was passed; half an inch from meatus the urethra was sore, and bled a little. On the 21st No. 30 was passed. The patient discharged on the 23rd, able to pass No. 30 himself.

CASE 12. *Stricture eleven years; internal division; two years and a half later in good health.*—A. A——, aged thirty-seven, was admitted on Sept. 21st. Had had gonorrhœa fourteen years before; this terminated in gleet. Three years after this had occasional attacks of retention. There was a stricture at five inches. No. 8 F. was tied in.

On the 29th the patient was etherised, and the fine guide bougie was introduced, the expanding urethrotome screwed on to the guide, and passed down. The stricture was cut to No. 25 F. No. 22 F. flexible catheter was tied in, and Otis's india-rubber refrigerative coil was applied. On Sept. 30th the catheter was removed. On Oct. 1st had a rigor; temperature 102°. On the 3rd, after passing urine, had a continuous rigor; temperature 103·8°. On the 11th No. 25 F. was passed. On the 13th he was discharged cured; could pass No. 25 F. flexible bougie himself.

On March 5th, 1878, he called at the hospital. He had not passed an instrument for several months; some time last summer. No. 23 entered the bladder easily.

CASE 13. *Two strictures, one at meatus, one lower; internal division.*—M——, aged forty-six, was admitted Oct. 5th. About sixteen years before patient had gonorrhœa, and for three years after he suffered from a gleety discharge.

On the 6th two strictures were found half an inch and one inch from the meatus. The first allowed 18 F. to pass, the second 15 F. (6 E.) The meatus stricture was cut to 25 F. by the meatotome, the second to the same size by the dilating urethrotome. No. 25 F. sound was passed. On the 9th No. 23 F. (No. 12 E.) catheter was passed, and on the 11th No. 10 E. bougie. On the 13th No. 24 F. (14 E.) was passed by patient. Discharged.

On Dec. 7th, 1878, patient called at the hospital. No. 24 F. was passed to the bulb.

CASE 14. *Tight stricture; internal division; three and a half years later in good health.*—J. S——, aged thirty, was admitted Dec. 3rd. Eight years before had had gonorrhœa, which left a gleet. Stricture was divided three years ago, and he was supplied with No. 19 bougie (10 E.)

On Dec. 8th two strictures were found, one, at an inch from the meatus, admitted No. 20; another, at four inches, No. 8 F. (2 E.) easily, but No. 10 F. (3½ E.) was tight. Both strictures were divided, and 28 F. sound was passed, and a catheter was tied in. On the 9th slept well; no rigor. Catheter taken out. An expanding sound was passed into bladder, and was withdrawn easily at the size No. 26. On the 17th there was no pain in passing water. Could hold water for some hours. Discharged; to attend weekly as out-patient, to have No. 27 and No. 28 sizes passed.

On March 4th, 1879, he brought a friend for advice; was himself in good health; passed No. 25 every two months or thereabouts.

ST. BARTHOLOMEW'S HOSPITAL, CHATHAM.

WOUNDS OF ARTERIES.

(Under the care of Mr. NANKIVELL.)

THE following cases of wound of artery were treated at this hospital during 1878.

CASE 1. *Wound of right brachial artery.*—L. F——, a labourer, aged twenty-eight, was taken to the hospital on April 20th, having, an hour previously, thrust his arm through a pane of glass. On admission, a tourniquet was applied; and on removing the handkerchiefs &c. in which the limb was enveloped, a jagged wound was found three inches long, extending semicircularly across the bend of the elbow, dividing the cutaneous veins, biceps muscle, and brachial artery close above its bifurcation. The proximal

ends of the brachial and the radial and ulnar arteries were tied with prepared catgut. The two latter vessels were secured separately, and the small portion of the distal end of the brachial artery which was above the ligatures was cut away. Sutures were inserted, a pad of dry lint was applied to the wound, and a straight back splint to the arm and forearm. The patient made an excellent recovery, and was discharged on May 22nd, with the perfect use of his arm.

CASE 2. *Wound of right ulnar artery.*—J. P——, a farm labourer, wounded his arm with a bill-hook on July 12th. He arrived at the hospital, much collapsed from hæmorrhage, three hours after the injury. A tourniquet was applied and the ulnar artery was found to be divided about the middle of the forearm. The proximal end of the vessel was readily secured, but considerable difficulty was experienced in finding the distal portion. Sutures, a pad of dry lint, and a splint were applied. Free suppuration of the centre of the wound subsequently took place. Discharged cured, Aug. 7th.

CASE 3. *Wound of right ulnar artery.* — On May 15th E. P——, a child, fell on a piece of glass, wounding his right arm. When taken to the hospital he had fainted. A tourniquet was applied, and the ulnar artery was seen to be divided at the bottom of a wound one inch long, and which extended across the front and inner side of the wrist. Both ends were secured with catgut, and a pad and splint applied. The wound was entirely healed in about a fortnight.

CASE 4. *Wound of left arteria radialis indicis.* — R. G—— was engaged on Aug. 4th in opening a ginger-beer bottle, when it exploded and wounded the left hand. On examination at the hospital, the wound was found to be two inches and a half long, completely dividing the web of the thumb. On loosening the tourniquet, there was free hæmorrhage from the branch of the radial artery to the index finger. Both ends were ligatured, and the usual dressings applied. The wound healed slowly by granulation.

CASE 5. *Wound of right radial artery.* — M. B——, aged thirty-two years, was taken to the hospital late at night on Aug. 3rd, having injured her right wrist with some broken glass. The artery was found to be wounded close above the wrist-joint. Both ends were tied, the distal portion being secured with some difficulty. A splint and dry dressings were applied, and the patient was removed to bed. She left the hospital on August 12th, a small superficial ulcer remaining unhealed.

CASE 6. *Wound of superficial palmar arch.*—On Oct. 2nd S. C——, a bargeman, drove a sharp-pointed piece of glass into the palm of his right hand, the wound being situated in the line of the palmar arch. On unscrewing the tourniquet which had been applied immediately after admission, and separating the edges of the wound, arterial blood spurted out freely *per saltum*. The injured vessel, however, could not be seen. A graduated compress of dry lint and a straight splint were applied. No bad symptoms supervened, and on Oct. 19th the patient left the hospital quite well.

CASE 7. *Wound of left radial artery.*—S. R——, a lad, fell with his left arm on a sharp stone on Nov. 21st, producing a triangular shaped lacerated wound of the front of the left wrist, and dividing the radial artery. The same treatment was pursued in this case as in the previous ones, and the wound was entirely healed by Dec. 24th.

CASE 8. *Wound of right dorsal artery of foot; Chopart's amputation.*—S. L——, a labourer, aged fifty-seven years, was admitted to the hospital on Dec. 4th, having wounded the dorsum of his right foot with an axe. It was found that the dorsal artery was divided, and it was also believed that the articulation between the scaphoid and cuneiform bones was opened. Both ends of the wounded vessel were tied, and the usual dressings and splint applied. Free suppuration subsequently took place in the sole of the foot, and dead bone having been detected, Chopart's amputation was performed on Dec. 31st. The patient left the hospital cured on Feb. 25th, 1879.

Remarks by Mr. NANKIVELL. — In treating wounds of large arteries a tourniquet should be at once applied to the limb, and then all handkerchiefs and clots removed. The proximal end of the vessel should be the first portion to be sought for and ligatured. When this has been done the tourniquet may be slackened and the distal end secured in a similar way. In the cases related above no difficulty was ever experienced in finding the proximal portion of a divided vessel; but this was not the case in several instances with the distal end necessitating the loosening of the tourniquet in order that some blood might escape from it, and thus its position be seen. This may be done without fear if the proximal end has been tied first. It should, however, be remembered that the blood coming from the distal end is venous-looking, and does not flow *per saltum*. In some instances it may be necessary to enlarge the wound in the normal course of the vessel in order to find the two ends. In the cases reported above no such proceeding was found to be necessary. All the vessels were ligatured at the wounded part except in Case 6. This is the golden rule, and should invariably be carried out, no matter how much the wound may have to be enlarged in order to do so. In wounds such as occurred in Case 7 a graduated compress will usually arrest the hæmorrhage successfully. It is better to trust to it than to enlarge the wound and search for the injured vessel in so important and vascular a part as the palm of the hand. Carbolised catgut was employed as a ligature in the above cases. No secondary hæmorrhage or troublesome sinuses occurred. Dry dressings and splints were always applied, as they have seemed in similar cases to favour primary union. They should be removed as seldom as possible. Case 8 required subsequent amputation, owing to a tarsal joint having been opened by the injury. These cases are not brought forward with a view of illustrating any new plan of treatment, but to show that if surgeons will adhere to the cardinal principle of tying both ends of a wounded artery at the injured spot they will obtain good results.

Medical Societies.

ROYAL MEDICAL & CHIRURGICAL SOCIETY.

MEMBRANOUS CROUP AND DIPHTHERIA.

THE ordinary meeting of this Society was held on the 22nd inst., Mr. J. E. Erichsen, F.R.S., President, in the chair. The evening was occupied with the adjourned debate on the Report of the Committee appointed to inquire into the Relation of Croup and Diphtheria. It was far more animated than on the first evening, and was again adjourned. The speakers were Dr. Johnson, Mr. Hutchinson, Dr. Squire, Dr. Semple, Dr. Lownds, Sir W. Gull, and Dr. Poore, the most striking fact being, perhaps, Mr. Hutchinson's argument against the specificity of diphtheria, an effectual method for disposing of the question of the specificity of croup.

Dr. G. JOHNSON said that the question of the relationship between membranous croup and diphtheria was a subject in which for a long time he had taken more than ordinary interest. For many years he had been a firm unquestioning believer in the theory that the usual anatomical result of inflammatory croup, especially in children, is the formation of membrane. In this he had followed implicitly the account given by Dr. West in his work on Diseases of Children, an account admirable, as he thought, for its etiology as well as for its morbid anatomy. But his belief in the theory was much shaken by having under his care two cases of unquestionable croup, in which after death no false membrane was found in any part of the air-passages. Much taken aback by this, he set himself to study the whole question. Mr. Ryland mentions the occasional absence of false membrane, and so does Sir T. Watson. A study of that instructive collection of memoirs on diphtheria, translated by Dr. Semple for the New Sydenham Society, seemed to throw a new light upon membranous croup. He there first learnt that French pathologists describe croup as a disease attended with exudation of false membrane, and that it is a form of diphtheria, drawing a marked distinction between this form and "false croup" or stridulous laryngitis. He then referred to Home's (the first Englishman to describe false membrane) work, published in 1765, and to Cheyne's, in 1809, where two distinct diseases seem to have been confounded, those cases which recovered being non-membranous, whilst the fatal cases, in which membrane