GREAT BRITAIN AND IRELAND

BRITISH ORTHOPAEDIC ASSOCIATION

ELECTION OF OFFICERS AND OF MEMBERS OF EXECUTIVE COMMITTEE

At a business meeting on September 29, 1961, the following officers were elected.

Vice-presidents for 1962—Professor Roland Barnes (Glasgow), Mr Norman Roberts (Liverpool).

Honorary Treasurer for 1962-63—Mr J. S. Batchelor (London).

Honorary Secretary for 1962-63—Mr T. J. Fairbank (Cambridge).

Members of Executive Committee for 1962-63—Mr J. G. Bonnin (London), Mr C. H. Cullen (Manchester), Mr G. J. Lillie (Plymouth), Mr Athol Parkes (Glasgow).

ELECTION OF FELLOWS, MEMBERS AND ASSOCIATES

The following were elected.

Honorary Fellows—J. B. Colquhoun (Melbourne), G. E. Godber (Ministry of Health).

Corresponding Fellow—T. G. Garofalides (Athens).


Fellows—J. G. Bickerton (Durban), N. J. Blockey (Glasgow), R. S. Henderson (Edmonton, Alberta), L. Henry (Cheltenham), H. R. T. Hodgkinson (Sydney), St J. G. O’Connell (Cork), D. P. Rowe (Sydney).


Mr G. C. Slee, who was awarded a British Orthopaedic Association European Travelling Scholarship in 1960, visited accident services in Europe. Mr Slee writes:

**SWEDEN**

In Stockholm almost all fractures and injuries are treated by the general surgeons. Although the orthopaedic department at the Karolinska Institute is large it does not undertake the early treatment of injuries, which are dealt with by the general surgical team on duty for the day. No special arrangements are made for the treatment of injured patients, who are treated in the general surgical wards.

In one of the larger general hospitals in Stockholm the Department of Surgery has virtually a sub-department of traumatic surgery under the care of Dr Ivor Palmer, who is regarded as the leading traumatic surgeon in Sweden. This is a very well run department, but there are no features of special interest. The junior staff are all young men undergoing general surgical training, most of them without any orthopaedic experience. Dr Palmer himself retires in a few years time. Dr Mac Fellander, the orthopaedic surgeon at St Goran's Hospital, runs the only mixed orthopaedic and traumatic unit in Stockholm and he shares the accident cases with his general surgical colleagues.

In Uppsala, where Professor Carl Hirsch held the chair of Orthopaedic Surgery, the situation was much the same. He had only about forty beds in his unit and dealt with little or no trauma.

Within the city of Göteborg there are three small polyclinics which deal with the smaller injuries and undisplaced fractures of small bones until discharge. More severe injuries and any fractures which require reduction are referred to the Sahlgrenska Sjukhuset Hospital, a beautiful modern and well staffed hospital, where there is a unique department of extremity surgery under Professor Erik Moberg. If an injured patient can be dealt with as an out-patient he is treated by the general surgeons until discharge. If, however, he has a hand injury or an injury of the extremity necessitating admission, the department of extremity surgery is informed and the patient is admitted. Although this is the agreed arrangement, many patients with injuries of the extremities find their way to the general surgical wards. This is not unrelated to the way in which doctors in the hospital service in Sweden are paid, for they receive payment for each out-patient when first seen and for each operation performed while the patient is in hospital, and for every out-patient attendance after discharge from hospital. The payment is made by the patient, who later obtains a 75 per cent rebate from the Health Service.

During the night, however, the department of extremity surgery is kept quite busy, as often the general surgical registrar on call feels that he would rather remain in his bed than collect the ten or fifteen Swedish crowns which would be his reward for getting up to examine the patient.

This unusual arrangement has come about mainly because this Chair was specially created for Professor Moberg, who is a general surgeon specialising in hand surgery. Apart from fractures of the bones of the hands he is not interested in other “minor fractures” in which he includes Colles’ fracture. He thinks that these should be dealt with by the general surgeons because there are not sufficient orthopaedic surgeons to go round. The department of extremity surgery is a very well planned new building and is well organised for its deliberately limited field of activity.

The University Orthopaedic Hospital at Göteborg does not deal with any injuries.

**Malmö**—All injuries in Malmö go to the General Hospital, which serves a district with a quarter of a million population, and is the only one in Sweden in which all skeletal injuries are dealt with by orthopaedic surgeons. Dr S. von Rosen is in charge of a department of 130 beds. Each department in this hospital is housed in a separate building, and attached to the general surgical building is the emergency admissions department. To this department many of the patients with injuries are brought, though not all of them, others being taken direct to the orthopaedic department, depending entirely upon the ambulance driver or the taxi driver who brings the patient. Often if they know that the patient has a broken bone they will take him straight to the orthopaedic department instead of to the reception. However, the liaison between general surgeons and orthopaedic surgeons appears to be excellent and all fractures and injuries of the locomotive system are referred to the orthopaedic department. Herein lies one of the big drawbacks of the arrangement at Malmö, for it is difficult to transfer patients between the various departments. Even the radiology department is in a separate building, though there are small x-ray machines in both the orthopaedic buildings. Here again is an added complication, for the orthopaedic out-patients are housed in a separate building 200 yards from the in-patients.

In the near future, however, all the surgical specialities are to be grouped together within one surgical block, which should enable reception and treatment of injured patients to be performed more effectively and more rapidly, and the co-operation which already exists between the various surgical departments will be made even more valuable.
Hand injuries are all referred to the department of hand surgery which is part of the department of general surgery. There they are dealt with by Dr Nils Carstam. Malmö has no university, but the hospital is associated with the University of Lund. The overall head of the Department of Orthopaedic Surgery in Lund and Malmö is Professor Gunnar Wiberg, who is stationed at Lund about twelve miles away. There is a department of neurosurgery in Lund, but not in Malmö. Consequently, a minor head injury with other injuries would be sent to the orthopaedic wards, but a moderate head injury with a fracture would be admitted to the general surgical wards and the orthopaedic surgeons would be invited to look after the other injuries; and a severe head injury would be transferred to the neurosurgeons at Lund. Burns are transferred straight to the plastic surgery department. Peripheral nerve injuries in the upper limbs are usually dealt with by the department of hand surgery, but in the lower limbs peripheral nerve injuries are referred straight to the orthopaedic surgeon.

In Professor Wiberg's department in Lund the orthopaedic department deals with a little over 50 per cent of bone and joint injuries. The arrangement there is that the orthopaedic department is on call for treatment of these injuries on alternate days, but all fractures into joints are referred to them.

Lund is an old university town somewhat similar to Oxford or Cambridge. It is not large and is at the moment suffering from a shortage of nurses, so severe that it has been the subject of headline news in the Swedish newspapers. Already two of the orthopaedic wards are closed down. There is a possibility of further closing of wards which would mean that a great number of injuries would have to be transferred to Malmö.

Generally speaking, the orthopaedic surgeons in Sweden would very much like to be in charge of the treatment of injuries to the musculo-skeletal system. The chief difficulty lies in the training of the young orthopaedic surgeons in traumatic surgery, for the only places in Sweden where trauma is dealt with by the orthopaedic surgeons are Malmö and, to a lesser extent, Lund. Apart from these two centres, young orthopaedic surgeons have to obtain their accident surgery experience in general surgical units, and with the exceptions of Palmer's unit in Stockholm and Moberg's in Göteborg, the standard of fracture treatment by the general surgeons is not considered to be very high. In addition there is an acute shortage of doctors in Sweden. Most doctors in the hospital service work in the large cities in the south, and the vast expanse of northern Sweden where there are many small towns but no large cities finds great difficulty in staffing its hospitals. Thus in a small Swedish town the surgeon is frequently the only one for many miles and has to undertake all emergencies.

There is no definite organisation for the treatment of traumatic paraplegia and no centres for paraplegics in Sweden yet. Some such patients are treated in neurosurgical wards, a few in the orthopaedic wards and the rest in general surgical wards.

**DENMARK**

In Denmark the situation is very much the same as in Sweden; almost all injuries are dealt with by general surgeons at the same time as, and beside, the general surgical patient. There are no hospitals with any specialised traumatic units. The Orthopaedic Hospital in Copenhagen received emergencies on Thursday only and that in Aarhus does not deal with any fresh injuries at all. At the moment there are only six or seven hospitals outside these two cities where orthopaedic surgeons are available, and here again, as in Sweden, the adequate training of orthopaedic surgeons is a problem.

**GERMANY**

I spent only a few days in Hamburg and Munich and visited only the orthopaedic hospitals in these places. Fractures are treated by the general surgeon in Germany.

**AUSTRIA**

Austria is the only country in Europe with a well organised series of accident hospitals, and this is the result of private enterprise on the part of a large insurance company, the "Allgemeine Unfallverisicherungs Anstalt" (abbreviated to A.U.V.A.). The evolution of this state of affairs is interesting. Lorenz Böehler was appointed in Vienna to deal with injuries in the university surgical clinics, with the agreement of the general surgeons in principle, though not in practice, because they refused to allow him the use of any beds. A.U.V.A. were delighted that at last someone was going to take a special interest in accident surgery, because they felt that too many workers were being permanently crippled as a result of industrial accidents, and so they offered to build a hospital for Böehler. Thus the original Unfallkrankenhaus of Vienna, in Webergasse, was opened in 1926 in a building which had originally been designed as a bank and offices. It eventually became the prototype...
for the other accident hospitals later established by A.U.V.A. in Graz, Linz, Salzburg, Klagenfurt and a second one in Vienna. Since the new hospital was opened in Vienna in 1955 the beds in Böhler's original Unfallkrankenhaus have been reduced from 150 to seventy-five, the insurance company expanding its administrative side into the other half. Working in conjunction with these accident hospitals are a number of country rehabilitation hospitals also established by A.U.V.A. All these hospitals are completely independent of the Austrian State Medical Services.

I visited the accident hospital at Linz which is directed by Dr Jorg Böhler—son of Professor Lorenz Böhler—and the old and new hospitals in Vienna. The Linz and the New Vienna hospitals are very similar in design and function and represent the final design arrived at from the experience of a quarter of a century. They are exceptionally well staffed, and in comparison with other Austrian hospitals, their medical staffs are well paid. The new Unfallkrankenhaus in Vienna, under the directorship of Dr Otto Russe, has 212 beds and twenty-six doctors, and at Linz there are 200 beds and twenty-five doctors. With the exception of two anaesthetists the doctors are all accident surgeons, either trained or in training.

To qualify as a specialist in traumatic surgery, an Austrian doctor has to train for at least six years as follows: two and a half years of general surgery, six months of "cold" orthopaedic surgery, and not less than three years of comprehensive traumatic surgery, of which two years have to be spent as an assistant, that is, in a position of responsibility. After one year of traumatic surgery it is not easy to get an assistant's appointment, and consequently it usually takes seven or eight years to fulfil the requirements. During these years of training they have to perform a certain number of various types of surgical procedure and plaster techniques. They all have to be able to give anaesthetics, for they frequently have four or five theatres in operation at the same time, and there is only one specialist and one trainee anaesthetist on the staff. They are organised into three teams who are on duty for twenty-four hours at a time, and sleep within the hospital whilst on call.

The Director is provided with an extremely spacious and comfortable flat in the hospital and is thus almost always available for consultation. Professor Böhler at seventy-five years of age still lives in his hospital, his only concession to the passing years being to spend the week-ends at one of the country rehabilitation hospitals where he "idles" away his leisure hours writing yet another edition of his classical work on fractures.

In hospital design and in the detailed organisation of the day to day work of the hospital there is much which we could usefully incorporate into our own accident services in the future. The ground floor is occupied by the administrative and insurance sections, together with inquiries, telephone exchange, medical records, hospital shop and a very large comfortably furnished waiting room with a buffet bar in one corner. The only medical features of this floor are the out-patient follow-up department and the rehabilitation or physiotherapy department. Reception, diagnostic and treatment areas are usually all on the first floor. All the rooms open on to one long wide corridor, the theatre block at one end being shut off to all but staff by large swing doors. Septic cases requiring operation are dealt with in a special theatre which is situated either on another floor or at the opposite end of the first floor from the "clean" theatres.

Every room in the hospital is numbered in sequence and the number displayed boldly upon the door. Patients are directed to "room number 106" or "107" instead of to the "x-ray department," "plaster room," and so on.

Ambulant patients attending for the first time arrive at the reception room on the first floor, where a secretary types the name and address and other particulars straight on to the front sheet of the notes. She also takes the history of the accident unless this is too complicated—when it is taken by one of the examining doctors. The patient now goes into a waiting room until called—over a loudspeaker—into the next room beyond which is the examination room. Meanwhile, his completed front record sheet passes by conveyor belt beneath the floor of the waiting room and into the examination room, and is already in place on the typewriter by the time the patient is called in for examination. He is then examined by one of the two doctors on duty there, who dictates his clinical findings and diagnosis (if made at that stage) to the secretary who types it out immediately. A carbon copy of the particulars of the patient serves as a universal request and order form and is taken with the patient to the radiology department, plaster room, suture theatre, septic theatre, or Unna's paste room as necessary. All these rooms are adjacent. Only very small dressings are done in the examination room itself. The patient returns with his radiographs which are then seen, the report dictated on to the case sheet, the diagnosis completed, the line of treatment indicated and the patient sent to the appropriate treatment room, and then returns home. Alternatively, he may be admitted and dealt with as an in-patient.

The ambulance bringing the severely injured stretcher patient hoots a signal as it approaches the drive-in at the front of the hospital and the electrically activated glass doors slide open allowing it to drive straight inside. The patient and stretcher are lifted on to a trolley which is taken by a
lift to the examination room on the first floor. After a rapid examination and assessment the patient is wheeled down to the theatre area for resuscitation, more detailed assessment—including radiography—and treatment.

The plaster rooms, radiology department, suture theatres and four main operation theatres with resuscitation area are all on the same side of the corridor and all intercommunicate so that patients on trolleys can pass to and fro. Ambulant patients move between the various rooms along the main corridor.

On the patient's next attendance at the hospital he goes to the reception room on the ground floor and his case folder is obtained. If he is in plaster he then goes to the first floor where he is examined and treated in a room for that purpose, which is also used for the daily review of radiographs. Here again all notes are typed from dictation. Shorthand is only used on ward rounds and dictaphones are used at night. If the patient is not in plaster he remains on the ground floor and is examined in one of the follow-up rooms there.

The medical records system is first class and is the British Banda system. The original front record sheet with all the details of the first attendance is printed in whole or in part on to all the necessary hospital medical, administrative and insurance documents, as well as on to the front of the radiograph envelope. Thus the particulars of each patient never have to be written again. A standardised letter to the patient's private doctor carries a full copy of the front sheet.

All the doctors are full time employees and only the directors of the Accident Hospitals are allowed private practice, which is largely orthopaedic in nature. Each day's work starts at 8 o'clock in the morning with a review of all the previous day's radiographs, to which come most of the staff; then teams of surgeons operate, do ward rounds or see out-patients. Every type of injury is dealt with, including those of the head, chest, abdomen, facio-maxillary area, renal tract and so on. I discussed with Dr Jorg Böhler and Dr Otto Russe the vexed question of the competence of any one man to deal successfully with injuries affecting all these various systems. Both held the view that while they personally felt able to cope with the great variety of injuries which presented, it was too great a responsibility for one man, and it was better shared with highly trained specialists, especially in neurosurgery and maxillo-facial, thoracic, and ophthalmic surgery. Dr Böhler believed strongly that the accident service should be part of a general hospital and should benefit from all the facilities thereof, and from the ready co-operation of other specialists. He did not consider that there is any place for a purely accident hospital—even in a large city. On the other hand, Russe thought the accident hospital to be a satisfactory arrangement—as long as the opinions of visiting specialists can be readily obtained.

None of the accident hospitals has radiologists; indeed, Russe considers it essential that the accident surgeon maintains full control over his own radiology department.

Paraplegics are nursed in the accident hospitals and later go to the rehabilitation hospitals—but the traumatic surgeons believe that they should be treated altogether in special centres. One of them told me that if he became paraplegic he would want to be treated in Sheffield or Stoke Mandeville.

Septic cases are segregated in special wards, this being made easier because, as in most hospitals built during this century in Europe, the wards consist of one to four—or occasionally six—beds. This adds considerably to the time taken by ward rounds.

The annual turnover of patients at the new Unfallkrankenhaus in Vienna is 35,000 new patients a year, of which 5,000 are in-patients.

FRANCE

Paris—Much of the traumatic surgery in Paris is carried out by orthopaedic surgeons. Most of the units there, and certainly all those I visited, deal with both orthopaedics and injuries side by side.

The most modern department is that of Professor R. Merle d'Aubigné at the Hôpital Cochin. It was only opened towards the end of 1959 and is very well appointed. It has a basement and six floors as follows: Basement—Electrotherapy and physiotherapy, photography, radiology and laboratory. Ground floor—Out-patients with reception, records, emergencies department with theatre and plaster room. Also facilities for teaching, including library and documentation room, waiting hall, lecture and conference room. First floor—Operation theatre suite with viewing galleries above and wards. Second, third and fourth floors—Wards, includes an air-conditioned burns unit on the fourth floor. Fifth floor—Doctors' accommodation.

Walking and stretcher patients enter the same central doorway, cross a large hallway where inquiries, lifts, staircases and telephone exchange are situated, and go straight into the emergency department. Ambulances drive up a ramp and unload under complete cover. Orthopaedic and fracture out-patients enter through a separate doorway. Lifts, conveniently situated to the emergency department, take patients up to the wards or down to the radiology department. There is no special resuscitation room.
The theatre suite was the most impressive I saw in Europe, or, for that matter, in those hospitals I visited in Canada and the United States in 1956. There are four hexagonal theatres laid out in a
square pattern, with scrubbing up facilities located centrally and sterilising facilities between each
pair. There is a glass dome over each theatre which projects into the floor above and around this is a
rail and benches for spectators, who look down—quite literally—into the field of operation. I have
never before had such an excellent view of operations in which I was not personally taking part.
The lighting is situated outside the theatre above the glass dome, and consists of a large battery
of multiple lights shining at various angles with a central, independently mobile part. Thus two
separate areas can be illuminated simultaneously. They are electrically operated from the theatre
below. The surgeon wears a throat or chest microphone and can give a commentary to the spectators'
gallery through a loudspeaker.

In the theatres themselves all anaesthetic gases are piped in through floor standards, all doors
are of glass and are moved electrically by foot switches; and instrument packs, towels and dressings
are passed in through a service hatch in one wall from a sterilising and preparation room common
to two theatres. Each theatre is irradiated by six ultra-violet light strips on the walls. One theatre
has a battery of floodlights occupying the whole of one wall; and there is a platform for the cameras
and cameraman, fixed on the mobile lights outside the dome overhead.

This theatre suite should be visited by anyone planning theatre accommodation for a new teaching
hospital. The layout is good for a mixed orthopaedic and accident unit, but suffers from being
separated from the general surgical and neurosurgical blocks which are some distance away.
Unfortunately I was not able to get figures of the numbers of accidents treated here, but thought
that they seemed but a small part of the work of the whole unit.

The Hôpital St Louis is one of the oldest hospitals in Paris. It is overcrowded and not very
appointed. Its arrangements for the reception and treatment of accidents are unexceptional. Dr Jean
Cauchoux is in charge of the orthopaedic department.

Lyon—The interest here was in the entirely different arrangements for accident reception.

The Hôpital Edouard Herriot has almost 3,000 beds and is the largest in the city. There are
about six other hospitals, all of which deal with injuries during the day, but at night most are taken
to Hôpital Edouard Herriot and an occasional one to the Hotel Dieu. During the day ambulances
take any obvious or suspected bony injuries directly to the Centre de Traumatologie which is directed
by an orthopaedic surgeon.

Multiple injuries are taken direct to the emergency block, where there is a surgeon on duty who
is responsible for triage. Emergency treatment is given and the patient transferred as soon as possible
to the appropriate traumatic, thoracic, neurosurgical service.

From 4 o'clock in the afternoon until 9 o'clock on the following morning any surgical or
medical emergency arriving at the hospital is admitted to the emergency block which is near the main
gates; but obstetrical or gynaecological emergencies are taken to a separate department which stands
opposite.

The emergency block is under the administrative charge of an orthopaedic surgeon, Dr A. Trillat.
There are one hundred beds available, of which he is allowed twenty for orthopaedic patients. Of the
remaining eighty beds there have to be forty to sixty empty by 4 o'clock each afternoon to be ready
to deal with admissions during the night, when the block is staffed by two surgeons—from a rota of
twenty-six—who do a week's tour of duty at a time; they include assistants from all the surgical
departments in the hospital, such as the general surgical, orthopaedic, neurosurgical, ear, nose and
throat, thoracic, facio-maxillary and so on. All of them are expected to be able to deal with most
medical and surgical emergencies, but they can call upon the appropriate consultant for assistance in
difficulty. They are also responsible for moving patients to the appropriate department during the
first few days after admission. Thus Dr Trillat, the surgeon-in-charge of the emergency block, has
virtually nothing to do with the eighty emergency beds unless he has been called in as an orthopaedic
opinion by the surgeon on night duty.

Dr Trillat agreed with me that this system of emergency admissions was not very satisfactory,
especially from injured patients' point of view. He and his colleagues had tried to have the system
altered so that all fractures were taken straight to the traumatic centre throughout the twenty-four
hours, but the administration consider the present system the most economical.

This huge hospital is yet another of those in which each department is situated in its own completely
separate building. Another orthopaedic service, that of Professor M. Guilleninett, which includes
children but no accidents, is situated in yet another building. All the buildings are connected, however,
by an extensive network of subterranean passages along which electrically propelled trucks and
trolleys move rapidly and quietly on rubber-tyred wheels carrying food, stores, supplies and patients
from one building to another.
The traumatic centre has been recently considerably altered internally and has a new twin theatre suite the design of which was based on that in the Hôpital Cochin in Paris. The layout is reasonably good, but unfortunately is spoilt by shortage of space throughout.

In addition to these accident centres I visited many other orthopaedic clinics in the countries of Western Europe during my fourteen weeks' tour. I saw much to think about and much to tell about. I was treated with great kindness everywhere, and with considerable patience. I feel more of a European now and value highly my memories of those surgeons whom I met. I shall always be grateful to the British Orthopaedic Association for giving me this splendid opportunity.

SCIENTIFIC SOCIETIES AND REGIONAL ORTHOPAEDIC CLUBS

THE ORTHOPAEDIC TRAVELLING CLUB

The first meeting of the Orthopaedic Travelling Club was held in Copenhagen, Malmö and Lund from May 29 to June 3, 1961. In Copenhagen the meeting was held at the Orthopaedic Hospital where the proceedings were opened by Professor Arne Bertelsen.

Muscle regeneration: incidence of scoliosis and foot deformities after poliomyelitis—Dr Niels Buhk (Viborg) described the findings in 240 patients suffering from poliomyelitis. Regular muscle testing had been carried out from six weeks to five years after onset. Fifty per cent of the ultimate recovery had taken place within six months, 80 per cent in one year and 95 per cent in two years. The degree of recovery was in direct proportion to the quality of the surrounding muscles. Back muscles recovered more rapidly than abdominal muscles. He had followed up 508 patients in regard to foot deformities and scoliosis for five years. One-half of the foot deformities originally noted had corrected within five years. In scoliosis imbalance of trunk and psoas muscles promoted deformity but psoas imbalance alone did not. It was unusual for deformity to develop in patients over fifteen years of age. Professor J. I. P. James (Edinburgh) said that scoliosis did not develop after skeletal maturity. High thoracic scoliosis was due to intercostal paralysis. Mr Norman Roberts (Liverpool) said that it was important in such a review to break down the recovery rates into children or adults. Dr O. M. Hansen (Copenhagen) said that, in muscle recovery, nerve end plates were enlarged and supplied more fibres. Dr Buhk replied that he had not found that scoliosis developed after fourteen years of age. He found that recovery in children was more rapid in the first six months but after that it was more rapid in adults. The difference was small. He had not found that training of muscles made any appreciable difference to the recovery, but prevention of deformity was important.

Experience with the Grice operation for the paralytic foot after poliomyelitis—Dr L. Zachariae and D. H. Møller (Copenhagen) described their experiences with the Grice bone block operation for valgus feet. Sixty-nine patients had been treated. Forty-six were good and twenty-three were poor; the foot was in too much valgus in twenty and in too much varus in three; but none had pain. Instability of the ankle joint was a difficult problem which might ultimately necessitate a pan-talar arthrodesis and a tight calcaneal tendon might prejudice the result. Muscle transplants could be combined with the operation with advantage.

Steindler's tendon transfer for paralytic elbow—Dr K. Nyholm (Copenhagen) reported the results of Steindler's tendon transfer for paralytic elbow in twenty-three patients. The operation should not be done in persons under fourteen years of age. The displacement should always be as high as possible, and stabilisation of the shoulder greatly improved the results. In only six was flexion full, and in all of these the shoulder had been stabilised.

Tendon transfers in forearm and hand for paralytic disorders—Dr K. Bang Rasmussen (Copenhagen) described the findings in 128 patients with paralysis of the hand in whom tendon transfers had been done. He had had no experience of the Brand operation but had found other operations to replace the lumbrical and interosseous muscles to be unsatisfactory. For loss of opposition of the thumb he did not like the Bunnell or Thompson operation but preferred that of Riordan. The use of a sling from the pisiform was essential to prevent the tendon from displacing proximally. Arthrodesis of the first and second metacarpals was a good operation, and if paralysis was more extensive arthrodesis of the metacarpo-phalangeal or interphalangeal joints might be required.

Life-threatening respiratory paralysis—Professor H. C. A. Lassen (Copenhagen) described his experience during the poliomyelitis epidemic in 1953. Eight to ten patients with respiratory paralysis were being admitted each day and at one time seventy patients were on artificial respiration. Experience with tracheotomy had enabled them to reduce the mortality rate from 87 per cent to 11 per cent. A total of 350 patients had been treated, of whom two-fifths had died. In the six years since then 195 patients with other forms of respiratory paralysis had been treated. Many of these were suffering from tetanus. He showed a film of the hospital care during the acute phase and of the rehabilitation for home life.
Chronic respiratory paralysis after poliomyelitis—Dr J. Mortens and Dr B. Sury (Copenhagen) reported the outcome of 250 patients treated during the epidemic of poliomyelitis for life-threatening respiratory paralysis. One hundred and ninety-two were still alive. One hundred and seventy-one had very largely recovered from the respiratory paralysis but some had other residual disabilities. Twenty-one still needed positive pressure respiration, fourteen continuously and seven intermittently. All had tetraplegia, in some combined with severe deformities.

Some aspects of poliomyelitis—Dr O. Remvig and Dr B. Eskesen (Hornbæk) had reviewed thirty-two adults with paraplegia after the poliomyelitis epidemic in regard to physical and social rehabilitation. Paralysis was permanent in all, but in none was the upper limb involved. The average length of in-patient treatment was sixteen months. Twenty-nine reached the stage of self-care in two years, fourteen were functional walkers, fifteen used wheel-chairs as well as walking and three could not walk. Twenty-one had returned to full-time work, five were doing part-time work and six were doing no work. The previous standard of education played a big part in the prognosis of rehabilitation. Mr J. M. P. Clark (Leeds) discussed the principles of tendon transfer. Deformity must first of all be corrected. Muscle transfer for loss of power was practical only in the upper limb, and the more distal it was the better. The time for operation was when no further recovery could be expected. Among successful transfers in the upper limb were transfer of pectoralis minor for winged scapula, of pectoralis major to restore flexion of the elbow (this was most satisfactory when the forearm muscles were already producing some flexion), flexor-extensor transfer for drop wrist, and transfer to restore pronation of the thumb. In the lower limb the object of muscle transfer was to achieve balance. Sometimes it must be combined with bony correction, such as osteotomy of the calcaneum or Grice’s bone block. Among satisfactory transfers in the lower limb were multiple transplants into the heel for calcaneo-cavus and psoas transplant in paralytic dislocation of the hip. Mr Robert Roaf (Oswestry) said that deformity in poliomyelitis might be primary or secondary. For instance, the rib deformity in scoliosis was usually secondary to the deformity of the spine. Unequal muscle pull might cause abnormal joint posture but by itself did not cause bone deformity. In a survey of upper limbs affected by poliomyelitis, spastic paralysis and Erb’s palsy, bony deformity was found only when some other factor operated. In children who used crutches cubitus varus due to inhibition of the growth of the trochlea was common. After prolonged splinting in abduction 90 degrees of rotation of the head of the humerus might develop, and after a period of hyper-pronation or supination of the forearm dislocation of the head of the radius might occur, but bony deformity due to muscle pull alone was never seen in his series. If it was agreed that some other factors, such as an abnormal gait or weight bearing, were necessary for bony deformity to occur this would explain the onset of scoliosis and calcaneus deformities.

Accident services—A discussion was opened by Mr H. Osmond-Clarke (London). He said that he was chairman of a committee comprised of representatives of orthopaedic, general, plastic and neurological surgeons and general practitioners. A considerable measure of agreement had been obtained. The present defects were the absence of any regional organisation, too many departments, poor facilities and not enough staff. They had advised a comprehensive accident service on a national scale, with provision for all types of injury. Such service was not possible in every hospital. An accident area would comprise a population of one to one and a half million. This would be based on a central hospital capable of dealing with special injuries requiring forms of treatment not available in the average general hospital. This would be attached to a teaching hospital if possible and would encourage research. More peripherally would be four or five accident services based on a general hospital. These units would be staffed and equipped to deal with all but the exceptional case. Smaller units equipped to deal only with minor injuries would be situated in the smaller towns and would be staffed by general practitioners. Professor A. Bertelsen (Copenhagen) said that the problem of accidents was not so urgent in Denmark. The acceptance of orthopaedic responsibility for the majority of accidents was not so well advanced as in Britain. Orthopaedic facilities for the treatment of fresh fractures were limited, but the sequelae of fractures were treated in orthopaedic hospitals. Dr G. Bauer (Malmö) said that in Sweden the peripheral hospitals were mainly general, and orthopaedic surgery took only a small part. In most the treatment of fresh fractures was the responsibility of general surgeons. It was hoped to increase the orthopaedic responsibility. The central hospital was equipped and staffed to deal with all orthopaedic and accident contingencies and was usually the centre of a population of one and a half million. The problem of who should be in charge of patients suffering from multiple injuries had been discussed for years, but in fact such cases were rare. Mr Norman Roberts (Liverpool) said that twenty-five beds per 100,000 population was likely to be insufficient.
Dr Bauer said in Sweden the number was sixty-eight per 100,000 but twenty of these were for orthopaedic surgery.

Perthes' disease—Dr O. Remvig and Dr H. Mose (Hornbæk) recounted briefly the history of this condition, which was first described in 1909. The results recorded in the literature showed such wide discrepancy that it was necessary to carry out some controlled review. They had reviewed 257 hips affected by Perthes' disease in 219 patients. Seventy-eight had been treated by strict rest in bed, seventy by “mobile” rest in bed and seventy-one with patten-ended calipers as out-patients. Good results were obtained in 130 (55 per cent), fair in thirty-nine (18 per cent) and poor in seventy-one (27 per cent). The results were estimated on the ultimate shape of the head. There was little to choose between those treated by strict or mobile bed rest, but patients in both these groups were significantly better than those treated as out-patients. The younger the child at the time of onset the better was the ultimate result. Mr H. Jackson Burrows (London) said that in the early stages slight flattening of the femoral head was to be seen. Focal bone necrosis occurred and there was a corresponding thickening of the articular cartilage. Subluxation could be demonstrated by measuring the distance between the neck and the bony pelvic brim. Mr Norman Roberts (Liverpool) said that the value of bed rest in treatment had been clearly demonstrated. Perhaps all older children should be treated thus, but the younger ones could be treated as out-patients in calipers. Mr E. W. Somerville (Oxford) said that it was possible to detect different degrees of Perthes' disease according to the extent to which the blood supply was affected. Firstly, there was the type in which only the lateral part of the capital nucleus was affected, the medial part remaining normal so that any deformity of the affected part led to incongruity in the shape of the head. Secondly, the whole nucleus was affected, was largely absorbed and was replaced by multiple nuclei which fused and formed a slightly flattened but congruous head. Thirdly, there was the type in which the changes were transient and recovery relatively rapid. In the first type only the lateral vessels were damaged by local injury, but in the second type all the vessels were obliterated, possibly by a tense effusion, and in the third type the cause of tension was only temporary. When subluxation occurred it could be corrected by osteotomy. Sometimes the changes in the head did not appear until many months after the initial symptoms. It was difficult to know just how long to observe “observation” hips. Mr E. A. Nicoll (Mansfield) said that the possibility of Perthes' disease starting with an acute synovitis interested him. He thought this cause was not uncommon. He asked if there was any evidence of premature fusion of the epiphyses. Mr F. W. Holdsworth (Sheffield) asked if it was possible to differentiate in an epiphysis between cartilage, which would ultimately ossify and cartilage which persisted as articular cartilage. Dr P. Lutken (Aalborg) described the growth of the ossific nucleus from the surrounding cartilage and the epiphyseal plate. Dr Mose replied that synovitis was found in 10 per cent of cases. He had found no evidence of premature closure of the epiphyses. Dr Remvig said that in his opinion all the younger patients and those with both hips affected should be treated in bed.

Surgical anatomy and treatment of patients with arthrogryposis—Dr O. M. Hansen (Copenhagen) described his experiences with seventy children suffering from arthrogryposis. Treatment should be started early. Correction by plaster should be started first but early surgery might be necessary. Deformities involved all soft tissues from the skin to the joints. In the muscles much fibrosis was present, which almost suggested that some previous disease had healed. Physiotherapy alone did not improve joint function. He had not found mental intelligence to be reduced, but there was a familial tendency. When one hip was dislocated operation was worth while, but not when both hips were affected.

Congenital dislocation of the hip—Dr Sophus von Rosen (Malmö) said that in Malmö, with 240,000 inhabitants, 99 per cent of children were born in the same hospital. All newborn children were examined by an orthopaedic surgeon within three days of birth. Over a period of seven years thirty-nine congenital dislocations of the hip had been diagnosed by means of the Ortolani click test and confirmed by radiographs, for which the hip was abducted 45 degrees and medially rotated. If a dislocation was present the line of the femur pointed towards the opposite anterior superior iliac spine. A simple malleable splint was described which held the legs in the Lorenz position and could be kept on without bandaging. The splint was not removed for four to six weeks and the splintage was continued for three months. Only three patients had not responded to treatment and in all of these the period of splintage had been too short. He doubted if congenital dislocation of the hip was due to any dysplasia; it was due rather to laxity of the joint ligaments which might be secondary to the maternal hormones. Evidence of hormonal disturbance was being obtained but it was still too early to be certain. Mr E. W. Somerville (Oxford) said that in the Oxford region the problem of early diagnosis was complicated by the fact that the children were born in many different places and the condition was relatively rare. He asked if Dr von Rosen thought that a form of nursing could be devised which, by preventing
extension of the hips for a period after birth, would prevent stretching of the capsule, and therefore instability. Dr von Rosen replied that he had not considered this and thought we must rely on early diagnosis by training all who saw newborn infants. Mr T. J. Fairbank (Cambridge) asked if the click test had ever been positive with a normal radiograph. Dr von Rosen replied that he had never found this.

The place of intramedullary nailing in the treatment of fractures of the femur or tibia—Mr F. W. Holdsworth (Sheffield) said that most simple fractures united with simple immobilisation. Those in which internal fixation would be most valuable were those in which it was technically difficult to obtain. He described 366 fractures of the tibia treated with simple immobilisation. Bone grafting was done in 2.5 per cent. Internal fixation was indicated only for malignancy or when extensive plastic surgery was required. In fractures of the femur a nail was helpful if other conditions made immobilisation difficult, if the fracture was in the upper two-thirds of the shaft—where reduction was difficult, or for non-union. Mr J. Charnley (Manchester) said that open reduction delayed callus formation but the power of a fracture to unite was determined at the time of the fracture by the degree of soft-tissue damage and the natural stability of the fracture. In the femur a large nail should be used to obtain immediate fixation and early knee movement. It was difficult to put a large nail into the tibia, and he used a thin one to maintain position only. He advised delaying operation for two to three weeks because this improved the chances of early union. It was better not to open the fracture site. He described a flexible reamer for use in the tibia. Dr Per Edwards (Malmö) said that in femoral fractures the nail must provide good fixation, there must be no comminution and the fracture must be in the upper two-thirds of the shaft. In a series of 1,003 fresh femoral fractures so treated there had been forty-six technical complications. In tibial fractures he preferred to use two Rush nails, one introduced from above and the other from below. Devitalised overlying skin was an indication for internal fixation.

Osteoporosis—Dr G. Bauer (Malmö) said that osteoporosis was unrelated to hyperparathyroidism. In 150 fractures of the femoral neck seen in one year, only two were suspected of any bone disease. In women, but not in men, the incidence of femoral neck fractures doubled in number for every five years after the age of forty. The same held good for fractures of the lower end of the radius, but began fifteen years later. Hormonal treatment was now in doubt and there was no evidence that it produced any benefit. Bone tracers were being used to obtain evidence about production and absorption of bone in osteoporosis. Mr H. Jackson Burrows (London) pointed out that anabolic steroids improved calcium balance as did an increased absorption of calcium.

The surgery of primary osteoarthritis of the hip—Mr N. Capener (Exeter) said that, although it was difficult to prove, it was probable that most osteoarthritis of the hip after the age of fifty was primary. There were many paradoxes. The question of hyperaemia versus avascularity was undecided. Why did arthritis not develop in paralysed joints? An operation, to be successful, should be done before the muscles wasted, but who would want a major operation such as arthroplasty, arthrodesis, pseudarthrosis or osteotomy for only slight symptoms? The biology and not the biomechanics should be studied. Cartilage regeneration after osteotomy was difficult to assess but he was able to show three examples. Mr K. J. Nissen (London) said that in the early stage of primary osteoarthritis passive flexion of the hip was to 90 degrees or more and the femoral head was still spherical; the cancellous bone was still hyperaemic and capable of repair and long survival. High femoral osteotomy banished pain, preserved movement and arrested the arthritis. Internal splintage was essential. If this were clearly understood the number of hips requiring radical surgery would soon be reduced. Professor G. Wiberg (Lund) said that smaller operations should not be forgotten. Obturator neurectomy gave some relief; drilling was helpful in 50 per cent for two to four years and the Pauwels osteotomy was often satisfactory for relieving pain. Dr K. Jansen (Copenhagen) said that osteoarthritis was not an entity. Drilling gave relief in 50 per cent but no change took place in the joint. Judet’s prosthesis failed because the acrylic became pulverised; Vitallium was better. The prosthesis came loose because of vascular changes in the bone. Arthrodesis was good when the osteoarthritis was unilateral in younger patients. When osteotomy was done the lateral rotation should not be corrected. Dr Sophus von Rosen (Malmö) supported the use of Pauwels osteotomy and demonstrated a patient in whose hip great improvement had been obtained. Mr Nissen said we should discard the mechanical concept of osteotomy; its important effects were biological. Professor Wiberg thought both factors played a part. Mr J. Charnley (Manchester) said there was no proof of the presence of hyperaemia. In the femoral heads he saw at operation avascularity predominated. If hyperaemia were present arthrodesis in the elderly would be easier. He pointed out that the exposed part of the femoral head was not covered by cartilage. Dr G. Bauer (Malmö) said that study with isotopes suggested great osteoblastic activity in the femoral head. Mr Norman Roberts (Liverpool)
supported Mr Nissen’s views and was opposed to any delay in operation, but he doubted the hyperaemia of bone. Professor R. Barnes (Glasgow) asked why it was that 20 per cent of osteotomies failed. Mr Nissen replied that the main reason was procrastination; too many cases were allowed to reach the stage of terminal collapse of the joint.

**Slipped upper femoral epiphysis—**Professor G. Wiiberg (Lund) emphasised the importance of early diagnosis. An advanced degree of slip should be corrected. Thirty-two per cent of those with a slight slip, and 92 per cent of those with a severe slip, developed osteoarthritis. When the deformity was fixed, correction could be by subtrochanteric or cervical osteotomy. The latter gave better results but had the risk of producing avascularity of the femoral head. Out of twenty-four cervical osteotomies for a slip exceeding 50 per cent, twenty were good and four had avascular changes. This was the best operation provided the incidence of avascular changes could be kept down to 15 per cent, but, if not, subtrochanteric osteotomy was to be preferred. Professor A. Bertelsen (Copenhagen) described his experience with 158 patients with 192 slipped upper femoral epiphyses. When only a slight slip was present reduction was unnecessary; for fixation Moore’s pins were preferred to a solid nail. Acute slips should be corrected under general anaesthetic and the epiphysis pinned. Late severe slips required cervical osteotomy which he considered to be the best operation in spite of the risk of avascularity.

Mr D. Wainwright (Newcastle-under-Lyme) emphasised the importance of early diagnosis. He used Moore’s pins for internal fixation and thought there was a place for gentle manipulation when possible. Cervical osteotomy was too dangerous and subtrochanteric osteotomy was to be preferred. It should be done early, after a few weeks of skin traction. Union was rapid and immobilisation was discarded at twelve weeks. Mr T. J. Fairbank (Cambridge) said that fixation in plaster was bad. He used internal fixation with pins and thought that growth would continue afterwards. Firm manipulation could be used but traction should be employed first. He supported the use of cervical osteotomy. Mr E. A. Nicoll (Mansfield) said that acute slips could always be reduced by manipulation but this must be done with great care. Mr H. Osmond-Clarke (London) said that Moore’s pins were better than a nail but were difficult to remove. Cervical osteotomy was satisfactory if well done. Mr W. D. Coltart (London) emphasised the dangers of manipulation. Mr J. C. Scott (Oxford) advised cervical osteotomy in early cases but subtrochanteric osteotomy in late ones.

**Myelography in the diagnosis of disc protrusion—**Dr Sten Cronquist (Lund) described the use of a water-soluble contrast medium. This was irritant and it was necessary to give a lumbar anaesthetic first. The head and shoulders were kept raised for four hours afterwards and the patient was kept in bed for twenty-four hours. Any fall in blood pressure was controlled with ephedrine. The medium was absorbed in twenty minutes. Lateral, oblique and antero-posterior views were taken. Operation should not be undertaken for a few days after the examination. The findings were confirmed at operation in 92 per cent of cases. Dr J. Mortens (Copenhagen) said that myelography was of value in diagnosing multiple herniations but the lateral view was unreliable. Clinical signs often suggested that the lesion was higher than was in fact the case, as was made clear by myelography and confirmed at operation. Wrong centering was misleading in the interpretation of the level of the lesion. Mr D. Lloyd Griffiths (Manchester) said that the objection to this type of myelography in England was largely due to the dislike of a spinal anaesthetic. Fortunately, the levels at which the myelograph was of greatest value were those at which clinical diagnosis was of least value. One great advantage of oil was that a second examination was possible. Discographs from the front were of value when the anterior approach was used, and myelographs made this approach more practical. Mr Robert Roaf (Oswestry) emphasised the value of myelography in the diagnosis of space-occupying lesions other than simple disc protrusions, such as protrusions associated with spondylolisthesis, tumours, and occasionally diastematomyelia or traumatic paraplegia due to pressure. Mr E. A. Nicoll (Mansfield) strongly supported the use of myelography but said that the oil should be removed afterwards. He had found it to be 97 per cent accurate. The lumbo-sacral level was most difficult because at this level the canal widened and the theca narrowed. Professor G. Wiiberg (Lund) said that myelographs were so good that discographs were of academic interest only. Mr H. Osmond-Clarke (London) said that myelography was increasingly useful but he had found headaches were sometimes troublesome. Mr W. D. Coltart (London) said oil should be used only when operation would follow.

**Electromyography as an aid to the diagnosis of lumbar nerve compression—**Dr Bertle Knutsson (Boras) said that electromyography was to be preferred to, and should precede, myelography. If the findings were doubtful, operation should not be done, and after three weeks the investigation should be repeated. Electromyography was equally accurate at all levels, as well as in recurrent lesions. Professor R. Barnes (Glasgow) asked if double innervation confused the findings in electromyography. Professor G. Wiiberg (Lund) replied that if enough muscles were examined it did not.

During the meeting a visit was paid to the Institution for Chronic Poliomyelitis Respiratory Paralysis where extensively paralysed patients—of whom many must rely wholly or partly on artificial
respiration—can live in their family surroundings and yet have at hand all the facilities for an emergency. Some patients spent the day with their families in flats but slept at night in the respiratory unit on the top floor. Others, less severely paralysed, might live in these surroundings but had been taught a trade at which they could work either at home or, if they are capable of it, elsewhere.

SOUTH-WEST ORTHOPAEDIC CLUB

A combined meeting of the South-West Orthopaedic Club and the Orthopaedic Section of the Royal Society of Medicine was held in Bristol on June 17, 1961, under the chairmanship of Mr A. L. Eyre-Brook.

The morning was devoted to a demonstration of patients and exhibits. The afternoon was devoted to short papers each followed by discussion.

Lateral rachotomy for vertebral biopsy in patients with a suspected tumour—Mr N. Capener (Exeter) described the ways in which the operation of lateral rachotomy could be used to obtain biopsy material from the vertebral bodies in the thoracic and lumbar spines. He described the surgical technique and gave a number of illustrative examples, of which most were primary or secondary neoplasms, but one was a tuberculous lesion of the fourth lumbar vertebra which resembled a tumour. Of particular interest were two children with Calvé’s disease, in both of whom the lesion was proved to be an eosinophilic granuloma. Mr Capener considered that biopsy often gave relief of pain by relieving the tension in the lesion. From this point of view it was worth while, quite apart from those patients in whom there were pressure symptoms upon the spinal cord. Needle biopsy did not have this advantage and frequently did not supply enough material for the pathologist.

Medullary nails for tibial fractures—Mr K. H. Pridie (Bristol) said that much experimental work had been done on this subject in Bristol and that they had the experience of treating seventy to one hundred different types of fracture by medullary nailing. A film of the technique, made by Mr M. Almis (Bristol), demonstrated the treatment of a recent case, the nail being introduced with the knee flexed to a right angle on a special wooden jig bolted to a standard operation table. The longest possible nail was used to fill the cortical shaft after the cancellous bone had been removed by flexible reamers. The point of insertion was on the plateau of the upper end of the tibia on the inner or outer side of the patellar tendon. The synovial cavity of the joint was not entered but the capsule was opened. Sealed under-water drainage was used for the first four hours. No splintage was used and the patient was allowed to walk as soon as the wound was healed. The period off work was about five to seven weeks. All the patients in the series maintained full ankle and subtalar movement. The difficulties of this method were described. Much discussion followed on the propriety of medullary nailing for simple fractures of the tibia. Mr Pridie pointed out that unless the method had been worked out as a routine procedure it would not have been available for difficult and complex cases where the nail saved the limb, its shape and function in a way that would be impossible by other methods.

Control of scoliosis through the growth epiphysis with particular reference to stapling by Nachlas—Mr W. Hedley Hall (Bath) reviewed the problem with particular regard to the theory of epiphysiodesis of the convex side of a curvature in order to correct scoliosis. He described the progress of five patients treated by vertebral stapling during the last nine years. Of these patients only one had not shown any deterioration. This was a child with hemivertebrae in whom the prognosis was in any case good. In the other four patients with idiopathic, infantile and paralytic curvatures severe deterioration had occurred despite stapling. The conclusion was that stapling had failed to control curvatures even when expected to do so. Mr Hedley Hall considered that the failure was one of method rather than one of principle, and this provoked discussion on the theories of epiphysiodesis.

Surgical treatment of the unstable cervical disc—Mr D. M. Jones (Bristol) discussed two aspects of the symptomatology of cervical disc lesions which sometimes led to difficulties in diagnosis. These were discomfort in the throat and localised pain in the arm, such as in the tennis elbow syndrome. He described his results in rather more than thirty patients operated on after failure to respond to conservative treatment. The operation consisted of exposure of the appropriate interval and decompression of the nerve root by removing the bone over it with a burr. No attempt was made to deal with the disc itself or to disturb the spinal cord and its coverings. The decompression was followed by a limited bone graft or, in later cases, by an acrylic insert. The patients were allowed out of bed the next day in a protective wool collar and after two weeks were discharged home in a plaster collar which remained on for three months. The results were good on the whole and several of these patients were seen during the morning’s demonstration. The later progress depended to some extent on the integrity of the other cervical discs.

Spontaneous fractures of the shin in the presence of knee deformities—Mr F. T. Wheeldon (Plymouth) described the occurrence of spontaneous stress fractures of the tibia and fibula in three old ladies,
each of whom had angular deformities of the knee. Each had complained of aching pain in the shin for several weeks with a sudden increase of pain while walking on a level surface. The first patient was 101 years old when first seen. Her fractures united in seven weeks. She was now 104 and doing well. The second patient had flexion deformities of the knees from rheumatoid arthritis. The fractures united in seven months. The third patient also had rheumatoid arthritis and had been on steroid drugs for a long time. In her case union had not occurred. Mr Wheeldon considered that the predisposing factor in these patients was a decrease in the fatigue limit of the bone due to osteoporosis and that the flexed position of the knees predisposed them to the fractures. During discussion several surgeons described similar spontaneous fractures, the only common feature being that they all occurred in subjects with rheumatoid arthritis.

IRISH ORTHOPAEDIC CLUB

A meeting of the Irish Orthopaedic Club was held at Altnagelvin Hospital, Londonderry, on May 13, 1961. Mr N. S. Martin was in the chair.

Results of operation for lumbar disc herniation—Mr John Lowry (Belfast) reviewed the results of surgery in 100 cases in which the diagnosis of prolapsed intervertebral disc had been confirmed at operation. There was a relationship between the duration of symptoms before the operation and the result, patients with a short history having a much better prognosis than those with a long one. The straight leg raising test was the most reliable guide in assessing progress and in selecting patients for operation.

Influence of the flexor and adductor mechanism in arthritis of hip—Mr A. G. O'Malley (Liverpool) discussed the actions of the flexor and adductor muscles of the hip with special reference to the iliopsoas. He considered tightness of the latter muscle to be largely responsible for the pain and deformity in the arthritic hip. He described the release operation in which the main objective was division of the psoas tendon; a film showed the operation and some results.

The morning session ended with a demonstration of interesting cases by the host Mr G. J. Fenton (Londonderry). In the afternoon members toured the fine new hospital at Altnagelvin.

MEMORIAL PLAQUE TO W. J. LITTLE

On August 31 Admiral Little, grandson of William John Little and son of Muirhead Little, unveiled a plaque to the memory of the physician who founded in 1838 what is now the Royal National Orthopaedic Hospital, established tenotomy in England and described the disease named after him.

On the initiative of Dr Donald Hunter, the plaque has been placed by the London Hospital over the portal of the Red Lion at the junction of Aldgate and Cable Street, formerly Red Lion Street. In the old coaching inn, since rebuilt, Little, son of the landlord, was born.

The house was associated with other notable, but less reputable, characters. Dick Turpin stole a horse in Epping Forest and left it in the inn stables, where it was recognised. His accomplice, Tom King, coming to take it, was arrested. At this moment Turpin arrived and accidentally shot King.

The Little ceremony was followed by the unveiling of a similar plaque in memory of James Parkinson of the "shaking palsy" on the site of his former home in Hoxton Square by his great-great-grandson, Dr Robert Tringham.

NEW ZEALAND

NEW ZEALAND ORTHOPAEDIC ASSOCIATION

The Twelfth Annual Conference of the New Zealand Orthopaedic Association was held from June 5 to 8, 1961, at Rotorua, under the presidency of Mr Kennedy Elliot (Wellington).

Biological problems of tissue transplantation—Professor N. W. Nisbet (Dunedin) discussed the biological significance of the homograft reaction. Animals which had recently rejected skin homografts were in
a state of transplantation immunity, as shown by the accelerated rejection of a second skin graft from the same donor. That the transplantation antigens responsible for the homograft reaction were common to many nucleated cells was shown by the accelerated rejection of a skin homograft in an animal sensitised by bone homografts from the original donor strain. Burnet's conception of what was "self" and "not-self" remained the crux of the matter in homograft research, and his recent clonal selection theory of acquired immunity provided a useful working hypothesis. The discovery of acquired immunological tolerance by Burnet and Medawar had uncovered biological processes of evolutionary importance and not only threw light on the morphology, function and interaction of normal cells and tissues in high organisms, but also produced a conception for auto-immune disease. Experimental homograft research in which transplantation immunity and immunological tolerance were used to examine transplantation antigens, the immunological status of newborn inbred rats and on runt disease in rats (in conjunction with Dr Barbara Haslop and Dr Irmgard Zeiss) were described. Mr Rex Blunden (Christchurch) asked whether the induction of immunological tolerance was applicable to man by the injection of adult foreign immunologically competent cells into babies. Professor Nisbet said in reply that the appearance of runt disease in experimental animals had kept this technique entirely in the laboratory and so far was not applicable to man. It was probably dangerous to do so at present. Some reports of successful skin homografts to Rh babies treated by exsanguination and blood replacement had been reported.

Cervical spondylosis—Mr G. J. Taine (Napier) discussed the diagnostic difficulties of this condition and reviewed eighty-four patients. Radiographs were often not helpful. Forty-eight patients were relieved by out-patient treatment with sedation and intermittent traction, followed by restoration of neck movement by exercise; occasionally a collar was necessary. Thirty-six patients needed admission to hospital. Continuous traction was applied by means of a halter until symptoms declined and then a collar was fitted. In some patients a Minerva plaster was applied. It had not been necessary to resort to surgery. Mr W. A. Liddell (Christchurch) said that bizarre symptoms in cervical spondylosis might be due to associated narrowing of the vertebral or carotid arteries by arteriosclerosis which sometimes led to blackouts and falls in older people. Mr K. Elliott (Wellington) said that surgery had very little to offer in the treatment of this disease and he had never seen a case improved by it, but had seen some made worse. He agreed with Mr Taine that simple measures led to high measure of relief and the importance of neurosis must be kept in mind in this condition.

Spontaneous paralysis of the posterior interosseous nerve—Mr P. Grayson (Palmerston North) said that this was a rare condition and he had seen only three cases. However, there was no doubt as to the etiology, and the anatomical lesion produced had been demonstrated in the cadaver and at operation. The chances were that other cases escaped notice. The lesion of the nerve was caused by excessive or unaccustomed extension of the elbow combined with supination of the forearm. This resulted in a traction or vascular lesion of the nerve where it passed from a position of relative fixation in the supinator muscle (where it was bound down by fascia) to a looser one between the superficial and deep extensor muscles of the forearm. Neurolysis of the nerves was followed by full recovery. Mr J. Saunders (Wellington) said that he had seen a case caused by an anatomical defect in the upper radius which had kinked the nerve. Mr C. Milsom (Tauranga) said that he had seen such a paralysis precipitated by unaccustomed extension of the elbow and supination of the forearm in a diabetic.

Osteotomy of the calcaneum—Mr A. W. Beasley (Wellington) recommended this method to correct persistent varus deformity of the heel in pes cavus. The weight-bearing position of the foot was immediately corrected and in addition the plantar structures were slackened, which reduced the clawing of the toes. Mr P. Grayson (Palmerston North) said that he had used calcaneal osteotomy to correct residual varus deformity of the heel in twenty-five patients between the ages of five and fifteen years with good results. Professor N. W. Nisbet (Dunedin) said that surgeons on the staff of the Robert Jones and Agnes Hunt Orthopaedic Hospital had used this method of correcting deformity for many years.

The disappearing hip—Dr I. Isdale (Rotorua, introduced by Mr C. Milsom) said that of 2,500 patients with rheumatic disease treated at the Queen Elizabeth Hospital, Rotorua, in a four-year period, radiology had revealed moderate to severe destruction of the femoral head in thirty-two hips in twenty-four patients; however, only ten of the patients in this group had received corticosteroid therapy. Dr Isdale believed that intra-articular therapy with corticosteroids, which was of the proven value, should not be discontinued in the treatment of rheumatic disease as it seemed to be impossible to predict the occurrence of this condition. Dr B. Rose (Rotorua) said that serological tests were useful in distinguishing between early osteoarthritic and rheumatoid hip joints. No correlation between pain, the stage of destruction of the femoral head and the dose of corticosteroids had been found. Several speakers discussed the difficulty in alleviating this condition by surgery.
Hereditary rickets—Dr Ross Tyler (Rotorua, introduced by Mr K. Elliot), traced affected members of one family through three generations and described the tests used to diagnose the disease, based on Professor Dent's many types of vitamin D classification. Resistant rickets was amenable to treatment with high doses of vitamin D given almost up to toxic levels. He showed a child of the family described demonstrating the radiological and clinical improvement of bow legs with this treatment. Sir Alexander Gillies (Wellington) said that sufficiently high doses of vitamin D had not been given in the past in this disease and in his opinion it was permissible to give near toxic doses, taking care to control them by blood phosphorus and calcium estimations. The variability of these biochemical tests must be taken into account in estimating the dose.

A clinical session, given by the staff, was held at the Queen Elizabeth Hospital, Rotorua.

Rheumatoid arthritis—Dr B. Rose demonstrated patients in whom the disease had begun in large joints and discussed the part played by injury in rheumatoid arthritis, which he did not think was of much importance in this respect. The treatment of rheumatoid arthritis in the Queen Elizabeth Hospital, by graduated movements and exercises, aspirin and intra-articular corticosteroids was described. After a thorough trial of conservative treatment Dr Rose said he called in the orthopaedic surgeon and had found hip arthroplasty of particular value.

Reflex patterns in cerebral palsy—Dr B. Rose and Dr I. Isdale demonstrated, with the aid of a film and patients from the cerebral palsy unit, the normal reflex movements from prematurity to the third month of life when they normally disappear. Persistence of the reflexes after the third month was a useful diagnostic aid in cerebral palsy and also helped with treatment and prognosis. Treatment was aimed at re-education of muscle groups through these reflex movements so that more normal control was gradually acquired. It was essential to start this as soon as possible, and long before the infantile patterns became established and fixed.

Fixed claw deformity of toes in rheumatoid arthritis—Mr C. Milsom demonstrated the post-operative condition of several patients treated by excision of the metatarsal heads through a wide transverse elliptical incision in the sole of the foot. He preferred this operation to amputation of all the toes and trimming of the under aspect of the metatarsal heads, because of the adverse psychological effects, especially in women.

Slipped upper femoral epiphysis—Mr C. Milsom also described the case history of a man of twenty-one years of age who had been treated six years before for bilateral slipped upper femoral epiphyses by trifin nailing of the side with slight deformity, and cervical osteotomy and trifin nailing of the side with pronounced deformity. Neither femoral head had become avascular. Following an animated discussion in which several members took part, the general opinion was that cervical femoral osteotomy was likely to be followed by a high incidence of avascular necrosis. Several speakers favoured removal of the prominent peak of the point of the femoral neck in cases with pronounced deformity and fixation of the head with Moore's pin. The trifin nail tended to displace the femoral head farther and was condemned.

Perthes' disease of the hip—Mr C. Milsom showed two brothers with this condition, one of whom was bilaterally affected but was symptomless, and asked whether it was justifiable to put children to bed for upwards of two years with this disease if symptoms were slight or absent and if there was no disability. Several speakers said that it was fully justified as it was the only method known to preserve the normal shape of the femoral head.

Spondylolisthesis—Mr C. Milsom demonstrated a patient with a moderately pronounced spondylolisthesis between the fourth and fifth lumbar vertebrae. There was no disability, but occasional backache which radiated to the buttocks. Mr Milsom believed that the etiology of spondylolisthesis was a compensatory increase of movement at the affected area due to stiffness of the spine above and below the lesion. This caused a fatigue fracture through the pars interarticularis and backward displacement of the separate neural arch, which was demonstrated in the patient. Spinal fusion of the unstable area, therefore, was not the logical treatment, and could in fact be harmful. Most cases of spondylolisthesis did not require operation, but manipulative treatment sometimes alleviated pain.

The annual golf tournament for the Gillies Cup was played at the Whakarewarewa course and was won by Mr Bruce Hay (Hamilton). At the Association dinner the president, Mr K. Elliot, described his visit to Australia as the guest of the Australian Orthopaedic Association. The election of Mr R. Blunden (Christchurch) as vice-president and president-elect of the New Zealand Orthopaedic Association was announced.
CANADA

THE DEWAR ORTHOPAEDIC CLUB

A group of Canadian orthopaedic surgeons, former residents of Dr F. P. Dewar of Toronto from 1951 to 1959, founded the Dewar Orthopaedic Club in March 1959. The purposes of the club include the advance of orthopaedic surgery by the sharing of experiences, ideas and ideals; the stimulation of academic interest in the practice of orthopaedic surgery, and the fostering of scientific investigation and presentation.

The first meeting was held in March 1959, and the second in March 1960. The last meeting was held at Kingston, Ontario, and the Lake Placid Club, New York State, in March 1961.

Meralgai paraesthetica—Dr W. R. Ghent (Kingston) described the variations of the lateral cutaneous nerve of the thigh at the level of the anterior superior spine and the inguinal ligament, and commented on the difficulties of diagnosis of this painful condition and the frequency of psychoneurotic symptoms. Persistent complaints could often be abolished by cutting the inguinal ligament or muscles about the anterior superior iliac spine to remove compression of the nerve. Neurectomy was seldom necessary.

Atlanto-axial derangements—Dr W. J. S. Melvin, Dr R. F. Hetherington and Dr Delbert Wollin (Kingston) discussed fractures of the odontoid process with or without dislocation, bursting fractures of the atlas, traumatic rupture of the transverse ligament of the axis, congenital anomalies, rheumatoid arthritis and recurrent rotary dislocation of the atlanto-axial joint. They said that 30 to 40 percent of fractures of the odontoid process unite by bone and a smaller percentage by fibrous scar. Neurological complications requiring atlanto-axial fusion were more common with subluxation than with fractures of the odontoid process.

Popliteal cysts—Dr A. C. Derby (Kingston) reported a series of popliteal cysts and said that there were two types. One was a true enlargement of the semimembranosus (or medial gastrocnemius) bursa, and was common in children. The second was a post-traumatic synovial proliferation of the knee joint most common in adults. The second type was often accompanied by a torn meniscal cartilage. The operation of medial menisectomy and marsupialisation of the cyst from within the knee through one medial incision was described and illustrated.

Fractures in metastatic carcinoma—Dr D. L. C. Bingham (Kingston), outlining his experiences with this type of fracture, said that union in secondary deposits from carcinoma of the breast treated with
hormones or radiotherapy was satisfactory. Very slow union was found in fractures through deposits from carcinoma of the prostate or in multiple myelomatosis.

Fat embolism—Dr S. L. Vandewater (Kingston) presented the case history of an elderly patient who died of fat embolism associated with a fracture of the neck of the femur and a general anaesthetic. In the considerable discussion that followed, the consensus of opinion was that the embolic fat originated from the blood stream.

"Open sky" bone grafting—Dr C. A. Laurin (Montreal) reported the use of a cancellous chip bone graft to a large osteomyelitic cavity of the tibia without skin coverage. Healthy granulation tissue covered the bone chips in ten days and a split thickness skin graft, applied on the fourteenth day, was successful.

Compression in the treatment of non-union of tibial fractures—Dr J. A. Leclerc (Quebec City) gave several case reports in which compression, applied with pins in the tibia, had brought about union of septic ununited transverse fractures.

Arthrodesis of the wrist—Dr D. W. Wilson (Toronto) reviewed thirty-five patients with arthrodesis of the wrist which had been done for post-traumatic arthritis and neuropathic conditions. Twenty of the arthrodeses were of the Brittain type. Fusion usually occurred in five months but three of the Brittain grafts fractured. The best results occurred if most of the metacarpo-phalangeal joints were free of the fusion, with a graft from the radius to the capitate and base of the third metacarpal bone.

Fibroma of bone—Dr G. A. McDonald (Toronto) reported four patients with desmoplastic fibroma of bone, which had a destructive appearance in the radiographs, but which responded well to thorough local excision and cancellous chip bone grafting.

Proximal femoral resection for intractable hip contractures—Dr G. W. D. Armstrong (Ottawa) demonstrated the dramatic improvement obtained with the use of this procedure in paraplegics. A posterolateral approach and extraperiosteal dissection were used.

Arthrodesis of joints in the growing hand—Dr R. M. C. Harrison (Hamilton) gave several case reports of arthrodeses obtained in finger joints between one pressure epiphysis and a metaphysis, or between two pressure epiphyses, with preservation of the epiphyseal growth zones.

Synovectomy of the knee in rheumatoid arthritis—Dr C. A. Laurin (Montreal) reported forty-two cases of synovectomy, accompanied in twelve cases by patellectomy, for rheumatoid arthritis. The joints which had been operated upon did not become severely affected again, even with a recurrence of activity in other joints. If necessary, manipulation of the knee was most helpful, and should be done about one to two weeks after synovectomy.

Epidural injection of hydrocortisone for proven intervertebral disc protrusions—Dr J. A. Leclerc (Quebec City) demonstrated the technique with a film and said that sciatic pain was often relieved, at least for a few weeks or months.

Destructive lesions of the spine in Marie-Strümpell arthritis—Dr E. A. Silverstein (Toronto) had collected seven patients with Marie-Strümpell arthritis in whom vertebral body destruction had occurred. These lesions, which could be confused with those of pyogenic osteomyelitis, usually healed slowly with only slight kyphotic deformity.

Kissing spines—Dr J. W. Hazlett (Kingston) outlined the naked-eye and microscopic appearance of the lumbar interspinous areas removed at twenty necropsies. Interspinous bursae were found in thirteen of these specimens. The clinical syndrome of kissing lumbar spinous processes or interspinous bursitis was outlined and several operative specimens were shown.

**GHANA**

**ORTHOPAEDICS AND FRACTURE SERVICES IN GHANA**

Lieutenant-Colonel P. R. Wheatley, R.A.M.C., Accra, writes: In this developing country orthopaedic surgery is just beginning. There was no specialised centre until 1959 when Colonel A. B. Dempsey established an orthopaedic clinic at the civilian hospital at Korle Bu where he was given beds for women and children. At the Military Hospital, Accra, seventy men's beds were allocated for civilian injuries and orthopaedic patients. This temporary measure, pending the rebuilding of Korle Bu Hospital, is likely to last for several years. In 1960 a new children's orthopaedic ward was opened at the Military Hospital and a civilian orthopaedic surgeon, Mr Asit Mitra, was appointed. He shares the civilian work with the military surgeon.

Both Korle Bu and the Military Hospitals have up-to-date physiotherapy departments, but these are understaffed. Orthopaedic appliances are made at the Government Limb Fitting Centre. The Ghana Cripples Aid Society helps the disabled financially and seeks employment for them. These measures touch only the fringe of a vast problem, but a beginning has been made.
Traffic accidents provide the bulk of the work in the Military Hospital. The injuries are severe and often compound. Fractures of the tibia and femur predominate, but fractures of the pelvis and of the spine are also common.

In the treatment of these casualties two lessons of war surgery are forcibly brought home. Firstly, the great importance of adequate blood replacement before operation, and secondly, the value of primary debridement followed by delayed primary closure after four or five days for any compound fracture which is more than six hours old. Primary suture has been followed in several patients by gas gangrene.

Our policy in simple unstable fractures of the lower limb is open reduction and internal fixation. All suitable fractures of the uppermost third of the femur and some in the middle third are treated by intramedullary nailing. Fifty-one such operations were performed during the past twelve months without any sepsis. Patients, after nailing, are discharged from hospital on crutches within three weeks, an important factor when bed space is limited. Suitable fractures of the tibia are plated. The patients are sent out in a walking plaster; but a difficulty here is that the African will go on walking in his plaster even though it be tattered and broken, and we have had two patients with bent plates.

Bone tuberculosis is common and because of lack of beds is, in the main, treated ambulantly. Severe chronic osteomyelitis often forces a reluctant surgeon to yield a valuable bed for a sequestrectomy.

Among the children, about 60 per cent of those admitted have contractures from poliomyelitis. Almost always it is only the lower limbs that are affected and there is usually a history of an injection having been given into the buttock during the fever. Soultar's operation for contracture of the hip is the commonest operation among the children, followed closely by a gastrocnemius slide.

For the future much remains to be done. The Government are contemplating building a 400-bedded orthopaedic centre and have plans for a nation-wide programme of rehabilitation for the disabled. There is an abundance of interesting work in Ghana and no young orthopaedic surgeon would be wasting his time by spending one or two years there.

ANNOUNCEMENTS

BRITISH ORTHOPAEDIC ASSOCIATION

MEETINGS IN 1962

The spring meeting will be held in Margate from May 3 to 5. Those wishing to present a paper at the meeting should supply an abstract of about 400 words (five copies) to the Honorary Secretary, British Orthopaedic Association, 47 Lincoln's Inn Fields, London, W.C.2. The closing date for receipt of abstracts is January 3, 1962.

The autumn meeting will be held in Copenhagen. The precise dates have not been settled but it is almost certain that the meeting will be held during the last week of August and not in the first week of September as previously announced. It is important that the programme for this meeting be formulated early, and those who propose to submit a paper for consideration are requested to communicate with the Honorary Secretary, British Orthopaedic Association, 47 Lincoln's Inn Fields, London, W.C.2, as soon as possible and in any case not later than the end of January 1962.

UNIVERSITY OF LIVERPOOL

LADY JONES LECTURE

Professor Robert Judet of Paris will deliver the Lady Jones Lecture in Orthopaedic Surgery on “L'Ostéogenèse Réparatrice,” on Tuesday, December 12, 1961, at 5.15 p.m., in the Large Lecture Theatre, New Medical School.

The Lecture is open to members of the medical profession, without fee or card of admission.

YUGOSLAV ASSOCIATION OF ORTHOPAEDIC AND TRAUMATOLOGICAL SURGEONS

An Association of Orthopaedic Surgery in Yugoslavia has recently been formed in Belgrade. The following officers were elected: President—Prof. Dr Dim Jovitchitch (Belgrade), Vice-Presidents—Prof. Dr F. Grosphitch (Zagreb), Prof. Dr B. Brecelj (Ljubljana), General Secretary—Prof. Dr S. W. Stoianovitch (Belgrade), Treasurer—Doc. Dr C. Rakitch (Belgrade).

The first Yugoslav Orthopaedic Congress will be held in Zagreb in October 1962. The general subjects to be discussed are: "Conservative and Surgical Treatment of Congenital Dislocation of the Hip" (Lecturer—Dr F. Grosphitch) and "Traffic Accidents" (Lecturer—Dr S. W. Stoianovitch). Enquiries should be directed to Prof. Dr S. W. Stoianovitch, Director of the Orthopaedic Clinic, 26 Visegradskia, Belgrade, Yugoslavia.

THE JOURNAL OF BONE AND JOINT SURGERY