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Entrapment of the deep branch of the radial nerve

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A 17-year-old girl was treated without improvement over a period of 3 years for radial epicondylitis, with steroid injections, plaster immobilization, physiotherapy, acupuncture, manual therapy and drugs.

She had radial elbow pain and pain along the extensor muscles. Weakness of the hand was felt on writing. Palpation of the extensor origin was painful, but more ventral than the radial epicondyle. Previous EMG was normal.

The radial nerve was explored, and entrapment of the deep branch under the musculus supinator and musculus extensor carpi radialis brevis was relieved. The patient then became symptom-free.

This case is a reminder that entrapment neuropathy of the radial nerve may easily be mistaken for radial epicondylitis because they have similar symptoms. Pain at pressure over the radial nerve is a simple and certain sign in entrapment neuropathy, whereas other symptoms may be unspecific. EMG is not always helpful. The diagnosis should be established before paresis of the extensor muscles occurs.

Rupture of the ulnar collateral ligament of the MCP joint of the thumb. A frequent, neglected diagnosis of thumb distortion

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Patients having sustained a distortion of the thumb, as often happens in different kinds of ball games and in downhill skiing, are treated as out-patients.

The diagnosis "distorsio pollices" not infrequently includes a more severe injury to the ligamentous structures of the MCP joint than just a distension. An untreated rupture of the ulnar collateral ligament of the MCP joint of the thumb will cause a malfunction of the grip of the hand.

At the surgical department of Ringerike hospital in Norway, an analysis of injured patients classified as having "distorsio pollices" was carried out. Among 18 patients belonging to this group, 11 patients showed a clinical instability of the MCP joint as a sign of a rupture of the ulnar collateral ligament.

Only six patients in this group were primarily diagnosed as having instability caused by a rupture of the ligament. Five patients were diagnosed as unstable at the second consultation to check the primary diagnosis "distorsio pollices".

All 11 patients were operated by a similar technique, using a "fish-hook" pull-out wire to reattach the ruptured ligament. The patients were followed up until there was complete restitution. The presentation recalls this not unusual injury to the ulnar collateral ligament of the MCP joint of the thumb, and describes further the diagnostic procedure and operative treatment of the injury used to regain stability of the joint.

Bone and joint tuberculosis in Norway

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The frequency of bone and joint tuberculosis has been considerably reduced in our country, as have frequencies of the other forms of tuberculosis. Reports of new cases have fallen from 1.2 to 0.25 per 100 000 inhabitants per year from 1961–65 to 1978–82. During the period 1978–82, the central tuberculosis registry office recorded 50 new patients, 42 of whom were treated at our hospital.

Our hospital treated 23 patients from 1.1.81 to 1.7.83. From this material some experiences are pre-

sented concerning the diagnosis and the treatment. The last three patients we treated, one boy and two young men, are immigrants from developing countries.

It is concluded that skeletal tuberculosis still exists. Quantitatively, this group does not constitute any great orthopaedic problem in our country, but the diagnosis is often delayed, which makes the prognosis worse.

In future we will mainly find patients with skeletal tuberculosis among the 20 per cent spontaneously tuberculin-positive Norwegians over 60 years old and among children and adult persons from developing countries. The public health authorities still require that actual, probable and suspected cases are immediately transferred to our hospital.

Osteoid osteoma

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In the past 20 years, 18 cases of osteoid osteoma have been treated by operation in our department. All were confirmed microscopically. The clinical diagnosis often gives rise to difficulties, although this benign skeletal lesion is not extremely uncommon. Accordingly, we found that our patients had suffered for a long time (average 22 months) before operation was performed. Sixteen patients were operated with en bloc excision, which gave immediate relief of pain and no recurrence. In two cases curretting was performed. This was not sufficient.

At operation, the nidus should be removed together with a block of bony tissue.

Scintigraphy and computerized tomography were used along with conventional x-ray to aid the diagnosis of osteoid osteoma.

Chondromyxoid fibroma

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In 1948, Jaffe & Lichtenstein pointed out the entity of chondromyxoid fibroma as a benign bone tumor. Huvos, reviewing the literature in 1979, gave an account of interesting aspects of diagnosis, treatment and prognosis of this rare tumor. The lesion, which is most common in the second decade of life, may occur in any bone, but most frequently in the tibia (33 per cent).

Our patient, a boy aged 11 years, presented a history of 1 year of intermittent pain and increasing swelling below the right knee. X-ray examination demonstrated a multilocular cystic tumor, 6.5 × 7.5 cm in size, involving the whole epiphyseal cartilaginous growth plate of the proximal tibia. CT scanning visualized partial destruction and thinning of cortical bone.

Histologic examination of the surgical specimen showed loosely dispersed spindle-shaped and stellate tumor cells in abundant myxoid intercellular matrix, gradually changing into chondroid tissue. Some areas also presented multinuclear giant cells.

At operation, gross examination presented a greyish, gelatinous, homogeneous and well-marginated tissue. The surgical treatment included curettage and bone transplantation.

Flow cytometric DNA analysis of mesenchymal tumors

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Six bone and six soft tissue tumors were examined; three were benign, six were low-grade malignant and three were high-grade malignant. For cell dispersion, the tumor samples were prepared mechanically or digested with collagenase (0.2–0.5 per cent, 1–16 h). Ethidium bromide and mithramycin were used as DNA dyes.

The mechanical dispersion of soft tissue tumors gave better resolution of the DNA histogram than collagenase digestion in five of six cases. The coefficients of variance (CV) varied as follows: mech. 2.1–8.0 (median 3.7), collag. 4.4–8.5 (median 6.5). The difference between the methods was smaller in the bone tumors, where the mechanical dispersion gave better resolution than the enzyme digestion in three of five cases: mech. 3.0–7.2 (median 3.6), collag. 2.5–8.8 (median 4.4).

All benign and low-grade tumors had normal DNA histograms with the diploid Go/G, phase greater than 80 per cent of the total histogram area. All three high-grade malignant tumors (one reticulosarcoma and two chondrosarcomas) had aneuploid cell populations. One euploid chondrosarcoma with recurrence at 16 months had a diploid percentage of 76.3. In one aneuploid osteosarcoma with three recurrences, 66.1 per cent of the nuclei were hypodiploid (1.6 C).

Unstable thoracolumbar fractures operated in Bergen

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Fifteen men and five women were operated for fracture in the thoracolumbar spine from 1980 to June 1983. On admission, five patients were neurologically intact, five had total paraplegia and 10 had neurological defects. Five of six patients injured in car accidents were back seat passengers, and four of these were women. All six patients injured at work were men.

Reduction and fixation by Harrington distraction rods were used in all patients, combined with postero-lateral fusion. The median time of mobilization was 14 days after surgery.

Four of 10 patients with neurological defects on admission had improved after 3 months. No serious complications were registered. The gibbus found on admission (13.6° ± 6.5) improved after surgery, (5.4° ± 2.8) but had returned at a re-examination after the rods had been removed (13.4° ± 4.9).

We conclude that operative treatment for unstable fractures and fracture-dislocations in the thoracolumbar spine with Harrington distraction rods allowed an early mobilization. We could not register any certain effect on the neural injury by the decompression which was achieved.

Neurosurgical aspects in treatment of traumatic injuries of the thoracolumbar spine

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The primary goals of operative treatment for fracture-dislocations of the thoracolumbar spine are twofold. The first is to decompress the spinal cord and/or nerve roots. The second is to ensure stable fixation in order to prevent secondary neurological deterioration.

In total, 19 patients were operated with Harrington distraction rods. Fifteen of these patients had neurologic signs.

Timing of the operation is important in patients with medullary symptoms. Operation is preferably avoided during the post-traumatic period of intramedullary oedema (from about 6 to 10 days). Exceptions are patients with progressing neurologic deficits. In patients with lesions of the nerve roots, operation was performed as early as possible.

The importance of posterior decompression and inspection of the dura must be stressed. Posterior fragments and lamina compressing the dura should be carefully removed. Dural rents with herniation of nerve roots were found and repaired in six patients (30 per cent). Reduction with Harrington distraction rods was performed under inspection of the dura. In some cases the medullary function was controlled by peroperative SEP registration. Reduction with the distraction rods usually decompressed the intraspinal structures. Further decompression by an anterolateral approach was necessary in four patients.

None of our patients deteriorated neurologically and 63 per cent improved. The best results were obtained in patients with nerve root lesions. The new diagnostic and surgical methods give hope of improved prognosis in some patients with lesions of the spinal cord and nerve roots.

Results of operative treatment of lumbar disc herniation

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The results of a retrospective study of 268 operations on 249 patients with a median observation time of 40 months are presented.

There was a 95 per cent conformity between radiculographic and operational findings. Thirteen per cent of the patients were dissatisfied with the final result of the treatment; women and patients with long-standing sciatica were in the majority. Ninety per cent of the patients over 60 expressed satisfaction. Among men and those with pre-operative symptoms of short duration, absence of sciatic pain was registered more frequently. There was a very high correlation between immediate postoperative relief of pain and a favourable result of treatment. Eighty per cent of the patients resumed their earlier occupation, and 5 per cent were incapacitated. Complications were registered in 3 per cent of the operations.

Further enquiries revealed a high degree of psychosocial problems amongst those dissatisfied, and abnormal "X-ray-lumbosacral-spine" was seen more often. Their main complaint was continuing disab-

ling back-ache. The majority of them were free from sciatica and this was confirmed by clinical examination.

During the observation time, 19 patients were reoperated (7 per cent). In 14 cases, ordinary discectomy was again carried out, and in five decompressive laminectomy. In retrospect, three more laminectomies should have been carried out initially. In all aspects, the results of reoperation were fully comparable with those of primary operative treatment. The final result was favourable in 18 of these 19 patients.

Lateral electrical surface stimulation (LESS) for treatment of idiopathic scoliosis

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Electrical surface stimulation is a relatively new method for treatment of idiopathic scoliosis. The method was developed at Rancho Los Amigos, Los Angeles.

The electrical stimulation takes place only at night; the surface electrodes are placed laterally on the convex side of the curve at a distance of about 7–15 cm with the rib leading to the apex in the center. The stimulation lasts for 6 s followed by 6 s of relaxation. Current pulses of 200 μ s at a repetition rate of 25 pulses per second are used and we try to reach a stimulation level of 60–80 mA during the first 14 days. The criteria for using LESS have been prepubertal idiopathic scoliosis of 20–40 degrees with radiographic documentation of progression in curves below 30 degrees.

We have used this method for only 6 months in 10 patients aged 7–15 years. The mean curve size was 28.5 degrees (range 24–37) in the standing position and 20.3 degrees (range 15–33) supine. The mean flexibility was 8.2 degrees or 29 per cent. Mean curve size during stimulation was 13.2 degrees (range 3–29) giving a correction of 35 per cent.

The immediate correction is good but we have no long-term result. Most reports, however, conclude that lateral electrical surface stimulation will prevent the curve from progressing in about 80 per cent of the cases. In one patient we had to discontinue the treatment because she was not able to cooperate. Most patients had skin rashes at the electrode site and some had problems sleeping during the first 14 days.

Our results, however, are encouraging and we will continue the treatment.

Segmental instrumentation *ad modum* Luque for treatment of spine deformities

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Segmental instrumentation is a relatively new method for correction and stabilization of spine deformities. This method was worked out by Luque in Mexico, during the early seventies and came into clinical use from 1976. The instrumentation consists of 2 L rods fixed by sublaminar wires to each vertebra. The transverse forces applied give a good correction and a firm internal stabilization, and external support is often not necessary. Segmental fixation can also be used in combination with Harrington rods.

We have used segmental instrumentation in eight cases, mainly for spine deformities due to muscular dystrophies. The mean age was 17.6 (15–27) years. The curves were large and rigid, mean 102 (68–140) degrees, flexibility 16 (7–30) degrees. Mean curve correction was 52 degrees or 51 (37–57) per cent.

In ordinary idiopathic scoliosis we are very satisfied with the Harrington operation, and will continue using this procedure in these cases. The operation time is shorter and the complication rate lower than reported in the Luque procedure. However, so far we have not seen any complication in our cases.

Segmental wiring has also been used by us together with Harrington distraction rods for reduction and fusion of spondylolisthesis.

Treatment of dislocated fractures of the tibial condyl: arthroscopic controlled reduction and early mobilization in a hinged cast-brace

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Thirteen patients with severe depression fractures of the lateral tibial condyl have been treated without arthrotomy and without removal of the lateral meniscus. This has been made possible by using an arthroscope as a guide when the fracture is reduced.

Two surgeons are needed for this operation. One performs the arthroscopy. Good irrigation is needed to clean away the blood. A hook is used to lift the meniscus, thus giving a good view of the tibial cartilage and the fracture lines. The second surgeon makes an incision distal and lateral to the fracture

site, and through a window in the tibial cortex the fracture is reduced, using an elevator. The reduction is controlled by the surgeon using the arthroscope who can give information about the exact fracture position. The accepted fracture position is secured through bone-transplantation and osteosynthesis (cerclage or spongiosa screw).

The knee is immobilized for 2 weeks in plaster of Paris. Thereafter, the patient is treated with a hinged cast-brace which secures against valgus/varus deformity, but allows free flexion/extension of the knee-joint. Six weeks postoperatively, full weight-bearing is allowed.

The results thus far are promising. Over 85 per cent of the patients had excellent function of the knee 3 months after the injury. We think this is due to: 1) no arthrotomy and thus no capsule-damage, 2) preservation of the meniscus, and 3) early mobilization.

Operative treatment of acute rupture of the anterior and posterior cruciate ligament

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This is a retrospective study of the operative treatment of acute rupture of the anterior and posterior cruciate ligament. During the period from 1977 to 1981, 45 patients were operated. All of them received a questionnaire and the answers are presented. Nearly 90 per cent of the patients returned the questionnaire, 24 men and 16 women. Thirty patients had injuries to the ACL, four to the PCL and six were operated for combined injuries to both cruciate ligaments. Mean age at the time of operation was 33.4 years, 97 per cent of the patients were operated within 2 weeks after the injury. The median observation time was 3.4 years.

Eighty per cent of the patients reported that they had no or little disability after the operative treatment. Twenty per cent were more seriously affected, with a feeling of instability.

Twenty per cent of those who participated actively in sport before the knee injury had no restriction in their activity after the ligament repair, 40 per cent had limitation in their activity, and another 40 per cent had to give up sports.

Inhibition of bone metabolism in rats by anti-inflammatory drugs

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The influence of acetylsalicylic acid and naproxen on bone metabolism in young rats has been studied. The serum concentrations of the drugs were comparable with the anti-inflammatory levels in humans.

Small rats were prelabelled with 14-C-proline and 85-Strontium daily during a 10-day period. Then, after having been distributed at random into weight-matched groups, the rats received anti-inflammatory drugs for 9 or 18 days. The femora were analysed. The bone resorption was measured as loss of incorporated 85-Strontium (minerals) and loss of 14-C-hydroxyproline (collagen) during the periods of medication.

Acetylsalicylic acid significantly reduced the bone resorption in the growing femora after 9 days of treatment. The resorption of collagen and minerals was inhibited to the same extent. The new bone formation in the femora during the medication periods was reduced after 18 days of treatment with acetylsalicylic acid. The formation of collagen and incorporation of calcium were inhibited. Naproxen did not influence the bone resorption or formation significantly.

The findings indicate an inhibitory effect of acetylsalicylic acid on bone metabolism.

Effect of intramedullary reaming and nailing on intact femora in rats

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The left femurs of 144 male Wistar rats were subjected to intramedullary reaming after circular denuding of the middle part, as for osteotomy. Osteotomy was not performed. The rats were allocated into three groups, one with an intramedullary solid stainless steel nail inserted, the second group had a polyacetal nail, while the third group was not nailed at all. Ten animals from the last group were sacrificed on the day of operation. At 4, 8, 16 and 24 weeks after operation, ten animals from each of the three groups were sacrificed. Both femora from each animal were mechanically tested and examined histologically. Intramedullary reaming resulted in an

immediate decrease in strength of about 20 per cent, in stiffness of about 30 per cent, in toughness about 15 per cent and in resilience about 20 per cent. There was no significant difference between groups in deflection at fracture. From 4 weeks onwards, strength and energy absorption were always lowest in the group with steel nails. The difference between groups was significant at 4, 16 and 24 weeks. The lower values for mechanical properties in the femora with steel nails is interpreted as being caused by stress shielding.

Intramedullary rods in feline femurs

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The experiment was designed as a comparison between flexible implants made of porous fiber titanium and implants made of solid titanium. Feline femurs were osteotomized in the mid-diaphyseal area and reamed with a 5.5 mm dental burr. This procedure was notably different for the distal and proximal portion, as the former required reaming of the most proximal area only, while the latter required firm reaming in its entire length.

Group 1 (seven animals) was osteosynthesized by means of flexible rods made of porous fiber titanium sintered onto a solid core; group 2 (seven animals) by a solid titanium rod fixed by cement.

At sacrifice, 8 months postoperatively, the animals received radiolabelled microspheres to assess the blood perfusion of the tissues. In group 1, all but one had a solid fusiform bony union. None of the cemented bones had this. And in group 1 a considerable periosteal bone formation had occurred that, judged from the contralateral femur, more than balanced out the bone removed by the reaming. No such tendency was observed in group 2.

The portion of the fiber rod sited in the area that had required least reaming during surgery had the largest amount of bone ingrowth/unit length of rod.

The ingrown bone had a blood perfusion approximately 7 times that of the tibial metaphysis.

Influence of removal of external fixation after various periods of time in experimental fracture healing

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In order to elucidate the problem of the optimum time for removal of external fixation, bone healing after external mini-fixation of rabbit tibial osteotomies was studied. The animals were divided into various groups according to different periods of time for removal of external fixation and sacrifice.

The strength and stiffness of the healing bones at 12 weeks were greater in tibiae where the external fixator was removed at 4, 6 or 9 weeks compared to those with the continuous presence of the fixator for 12 weeks. Although the fixation is essential in the early healing period, it seems that bone healing is stimulated by the removal of the fixation after a certain period of time. The optimum time for removal of external fixation was at 6 weeks of healing, when the bones had regained normal stiffness and approximately 50 per cent of normal strength.

Epiphyseal osteotaxis

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Epiphysial osteotaxis with distraction has been applied experimentally and clinically. In a preliminary series of 13 rabbits we developed an articulated osteotaxis apparatus for valgus, neutral and varus distraction/compression. Using a jig, the apparatus could be applied percutaneously.

The optimal age of the rabbit for epiphysial distraction was 6 weeks, and the optimum speed 1 mm every other day. X-ray controls showed that the growth potential of the epiphysial cartilage was not disturbed, the growth continued and the malalignments were corrected to a varying extent.

Epiphysial osteotaxis of the distal femur was performed on a patient with Salter-Harris type IV + V injury, where earlier effects with a correction osteotomy, removal of a large lateral bony fusion and fat tissue insertion had failed and a 25° valgus deformity recurred. After cutting the bony bridge with a saw, the deformity was gradually corrected with asymmetric osteotaxis distraction.

Bilateral lengthening for treatment of short stature

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A bilateral femoral lengthening of 6.5 cm was carried out in an 18-year-old female using the Wagner tech-

nique. Her height was 150 cm, leading to severe psychiatric problems with isolation. Six months after osteosynthesis of the first side, the lengthening on the other side was started. The force necessary for lengthening was recorded by a strain gauge, showing that the force increased almost linearly with the increase in length.

No complications occurred. The patient was very pleased with the results and recovered completely from her psychiatric problems.

In bilateral tibial lengthening, we prefer epiphysial distraction using transfixation pins and a Wagner apparatus on each side to control the tibial axes.

Fractures of the femoral neck in Oslo and Troms

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A prospective study of serious accidents occurring in Oslo during the weeks 42–47 in 1977, 1978 and 1979 was undertaken. The age groups 20–24 and 75–79 years had the highest frequency of accidents, and the frequency among men was higher than among women. The injuries affected the skeletal system in more than 50 per cent and the central nervous system in about 20 per cent.

Fractures of the femoral neck comprised about 25 per cent of the total case material. Domestic accidents caused by falling were responsible for most of these fractures. Information obtained was compared with data about fractures of the femoral neck occurring in Troms in 1978. No differences in the pattern of accidents were found between the two counties, but in all age groups the incidence of fracture of the femoral neck in Oslo was more than twice that in Troms. It is suggested that this discrepancy reflects a difference in osteoporosis between the two populations.

How are fractures of the proximal femur treated in Norway?

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We know that almost 6 000 fractures of the proximal femur were treated in Norwegian hospitals in 1979 (Falch & Slungaard, *Acta Orthop. Scand.* 1982: **53**: 505, but no attempt had been made to find out *how* these fractures are treated throughout our country before spring 1983, when a questionnaire was sent out. We received answers from all 60 hospitals treating such fractures in Norway.

In January 1983, three hospitals treated approximately 40 fractures of the proximal femur, i.e. more than one every day; all three hospitals are situated in the Oslo region.

A total of 18 different operating methods was reported. Concerning dislocated medial fracture, 12 hospitals did primary endoprostheses on patients above a certain age. Hip-compression-screw was the most popular method used for osteosynthesis of these fractures. More than 50 per cent of the patients were treated by this method. Medial fractures without dislocation were mostly operated on with von Bahr screws, three-winged nails or hip-compression-screws.

Fractures through the trochanteric region were treated with Ender nails in 55 per cent of the hospitals. The McLaughlin, HCS, Jewett and AO-plate-nail were used for the rest.

The time between admission and operation in 60 per cent of the hospitals was less than 24 h, and in 10 hospitals such fractures are operated on as emergency cases.

Dextran on the 1st, 3rd and 5th day after operation was the most common anti-thrombotic treatment. Forty per cent of the hospitals did *not* routinely control their patients in the out-patients' department.

Hip compression screw versus nail plate fixation of femoral neck fractures

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In a prospective randomized study, the results of fixation of femoral neck fractures with the Haukebø hip compression screw and the McLaughlin nail plate were compared: 128 fractures were treated with the hip compression screw, 127 with the nail plate. The patients were followed for 3 years.

The duration of the operation was slightly longer in the hip compression screw group (mean 42.8 min versus 37.8 min, $0.001 < p < 0.01$). The rate of postoperative complications, fall in haemoglobin level and need for blood transfusion were equal in the two groups. All fractures of Garden stage 1 and 2 healed in both groups; 11.4 per cent of Garden 3 and 4 did not heal in the hip compression screw group, com-

pared to 25.0 per cent in the nail plate group. This difference is statistically significant ($0.025 < p < 0.05$).

Late segmental collapse was found in 14.6 per cent of the displaced fractures in the hip compression screw group, compared to 20.9 per cent in the nail plate group. This difference is not significant.

The results show that fixation of femoral neck fractures using the hip compression screw device gives a lower rate of failures without concomitant disadvantages compared to nail plate fixation

Total hip replacements in Norway – trends from 1980 to 1983

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A repeat questionnaire to all hospitals in Norway performing hip surgery showed an increase in primary replacements from 2435 in 1980 to 2974 in 1982 (+ 22 per cent). The number of revisions increased from 257 to 476 (13.8 per cent of all; an increase of 85 per cent).

The number of patients on the waiting lists was 3760 at the beginning of 1981, and 3660 two years later (– 3 per cent). The average waiting times were 1.9 and 1.5 years, respectively.

The number of operating departments increased from 50 to 58. Twenty-five departments performed less than 30 operations per year, and their share of primary replacements in 1982 was 10.2 per cent of the national total; a reduction of 2.9 per cent from 1980. Departments with more than 80 primary replacements per year were responsible for the increase.

The number of total hip operations was on average 8.3 per surgeon per year, while it was 20 in departments with a greater number of operations.

We conclude that painful hip problems showed some reduction from 1980 to 1982. However, the waiting lists for operation are still undesirably long. The increased number of revisions is worrisome.

To maintain the necessary level of experience for special problems in total hip surgery, the operative resources should be increased in large institutions.

Early results after total hip replacement with ICLH double cup and Müller prosthesis. A prospective study

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This study reports the results of 149 ICLH double cup prostheses and 155 Müller prostheses operated in the period 1978–1982. The mean hip function according to Charnley after surgery was very good in both prostheses, but slightly better in the Müller patients. Six ICLH prostheses had been reoperated: five reoperations were caused by mechanical loosening and one by pain and stiffness. In the Müller group, no reoperations have been carried out so far, and no radiographic signs of mechanical loosening of the prostheses have been seen.

Rearthroplasties after conventional total hip prosthesis and double-cup prosthesis. A comparative study

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The revision operation of 19 Müller total hip prostheses and nine ICLH double-cup prostheses is compared. In the Müller group the mean operation time was 186 min, the amount of blood transfused was 3526 ml, and the hospital stay was 34.9 days. The corresponding figures for the ICLH group were 94 min, 1389 ml and 25.7 days. Revision of the conventional hip prostheses involved technical difficulties and complications, such as femoral fractures and postoperative dislocations, which were not seen in the ICLH group. The revision operation in the latter group was as easy to perform as the primary operation. The clinical result 6 months after revision was significantly better in the ICLH group. Thus, the double-cup prosthesis provides another possibility for revision. However, a relatively high incidence of early loosening indicates that the double-cup prosthesis should not be used in older patients in whom a follow-up shorter than the life time of a conventional hip prosthesis would be expected.

A follow-up study of Wagner double-cup arthroplasty

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During the 6-year period 1977–1982, 175 hips in 148 patients were operated with the Wagner resurfacing arthroplasty. Mean observation time was 3.1 (6–1) years. Of the hips, 83 were dysplastic or dislocated. In some cases it was necessary to reduce the femoral head and to carry out an acetabular shelf operation with bone from the iliac crest. Twenty-eight hips had been operated on earlier; nine Smith-Petersen arthroplasty, four Gerard arthroplasty, nine intertrochanteric osteotomy and four had had a shelf operation.

The results were satisfactory in 119 hips (68 per cent). They had no pain and good hip motion. In the age group 56–70 years, the result was best: good in 82 per cent. In patients below 46 years (42 hips), only half of them had a good result.

Reoperation has been done in 22 hips because of loosening, most often of the acetabular cup. Two of the acetabular components were fractured and two others showed distinct signs of wear. In two patients the femoral neck fractured.

The results indicate that the Wagner resurfacing arthroplasty is not suitable in the younger age group where the osteoarthrosis is often caused by congenital hip dislocation.

Post-traumatic necrosis of the femoral head in children

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From 1976 to 1983, 12 children with necrosis of the femoral hip following traumatic hip injury were treated at Sophies Minde Ortopedisk Hospital. The material includes 10 boys and two girls with an average age of 15 years. The primary injury in nine patients was fracture of the femoral neck, in two patients pertrochanteric fracture, and one patient developed necrosis of the femoral head following an abduction trauma. Three of the patients were injured while ski jumping, four in traffic accidents, one fell off a brick wall and in two patients the accident mechanics were unknown. Primarily, patients with fracture had been successfully treated by reduction and internal fixation.

Four of the patients obtained satisfactory results by traction and physiotherapy alone. In another four, tenotomies were performed in addition to traction and physiotherapy. In three patients, valgus osteotomy was performed for three reasons: to correct contracture, to obtain a better weightbearing joint surface of the femoral head, and to reduce leg length discrepancy. In one patient, a hip joint arthrodesis was done. The clinical results in the three patients with valgus osteotomy were good, resulting in a satisfactory range of movement without pain, and a negative Trendelenburg sign when reexamined 2 years after surgery.

Double-blind study of piroxicam vs placebo in acute musculo-skeletal disorders

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Non-steroidal anti-inflammatory drugs are widely used in acute soft tissue injuries for relief of symptoms and shortening of the restitution period. In a double-blind, randomized trial we have studied a new compound of the class, piroxicam, vs. placebo, in 77 patients with traumatic injury of muscle, periosteum, bursa or ankle joint. Three patients dropped out for various reasons. All patients were seen within 24 h after injury and all had received standardized first aid. The dosage was: piroxicam 40 mg once daily for 2 days and then 20 mg daily for another 5 days. Efficacy parameters were assessed at entry and after 3 and 7 days. After 3 days, there was a statistically significant difference in favour of piroxicam vs. placebo for the following parameters: pain at rest, pain on movement, pain at weight-bearing, reduced function, pain on palpation and reduced force, whereas differences for swelling and flexion/extension deficit were not significant.

After 7 days, differences were significant for pain on palpation and reduced force only. The mean time required for full restitution was significantly shorter in the piroxicam group. Side effects to piroxicam were infrequent and mild. One patient in the placebo group stopped treatment due to epigastric discomfort.