The South African Society for Surgery of the Hand

Die Suid-Afrikaanse Vereniging vir Handchirurgie

Congress  Kongres

4 - 5 September 1999 PRETORIA

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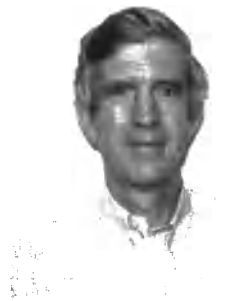
INHOUDSOPGAWE

MESSAGES OF WELCOME

DR EDWARD BOWEN-JONES
PRESIDENT
THE SOUTH AFRICAN SOCIETY FOR SURGERY OF THE HAND



A warm welcome to the 30th annual Congress and Instructional Course of The South African Society for Surgery of the Hand in Pretoria. Dr Theo le Roux and his team have put together an excellent programme. We are grateful to them and to those of you who are contributing with your papers.

A special welcome to our two visiting speakers, Dr Paul Smith and Dr Stéphane Romano. Our overseas speakers continually inspire us to new heights with their fresh input into our country. A big thank you to you both for coming.

A congress is ultimately what the delegates make of it. We hope that the scientific papers and talks will stimulate lively and helpful discussion. We also hope that those of you who are not members will join and be back for our next meeting early next year in Cape Town.

Have a good congress!

DR THEO LE ROUX
CONGRESS CHAIRMAN

A very warm welcome to every delegate to our Annual Congress and Instructional Course for 1999. This will be the last event for this century.

Also a special welcome to Dr Paul Smith from the UK and Dr Stéphane Romano from France and many thanks for all the local contributors. The program is packed with information and also a new hands-on workshop.

Pretoria welcomes you, enjoy the academic presentations, the social program, make new friends and enjoy our beautiful Jacaranda city.

INTERNATIONAL VISITORS

Dr Paul Smith

Dr Stéphane Romano

PAST PRESIDENTS/VORIGE PRESIDENTE

1969 – 1971	I. Kaplan
1971 - 1973	A.C. Boonzaier
1973 - 1975	M. Singer
1975 - 1977	J.H. Youngleson
1977 - 1979	T.L. Sarkin
1979 - 1981	C.E. Bloch
1981 - 1983	S.L. Biddulph
1983 - 1985	W.M.M. Morris
1985 - 1987	L.K. Pretorius
1987 - 1989	K.S. Naidoo
1989 - 1991	S.L. Biddulph
1991 - April 1992	B.J. van R Zeeman
April 1992 - 1993	S.L. Biddulph
1993 - 1995	J.H. Fleming
1995 – 1997	U. Mennen

OFFICE BEARERS/AMPSDRAERS

President	E. Bowen-Jones
Immediate Past President/ Pas uitgetrede President	U. Mennen
President Elect/Aangewese President	L.T. de Jager
Honorary Secretary/Treasurer Ere-sekretaris/Tesourier	M. Carides
Members/Lede	T.L.B. le Roux
	A. Matime
	J. v Wingerden
Executive Secretary/ Uitvoerende Sekretaresse	Hendrika vd Merwe

CONGRESS ORGANISERS/ KONGRESORGANISEERDERS 1999	Theo le Roux
	Hendrika vd Merwe

ANNUAL GENERAL MEETING
ALGEMENE JAARVERGADERING

SATURDAY 4 SEPTEMBER 1999
16:30 - 17:30
(Members only/Lede alleenlik)
Ruby Auditorium
CSIR
Pretoria

1
Welcome address by the President
Verwelkoming deur die President

2
Apologies and Proxies
Verskonings en Volmagte

3
Minutes of the previous Annual General Meeting
Notule van die vorige Algemene Jaarvergadering

4
Matters arising from the minutes
Sake wat uit die notule voortspruit

5
President's report
President se verslag

6
Honorary Secretary/Treasurer's report
Ere-Sekretaris/Tesourier se verslag

7
Proposed increase in Entrance Fee and Annual Subscription
Voorgestelde verhoging in Intreefooi en Jaargeld

8
Announcement of New Executive Committee
Aankondiging van Nuwe Uitvoerende Bestuur

9
Membership/Lidmaatskap

10
General/Algemeen

11
Next Annual General Meeting
Volgende Algemene Jaarvergadering

SOCIAL EVENT
SOSIALE BYEENKOMS

4 SEPTEMBER 1999
19:30 for 20:00

DINNER / ETE
(delegates and partners/
kongresgangers en metgeselle)

Onyx Room
First Floor
CSIR

Admission to this function by invitation only

FUTURE COURSES AND CONGRESSES
TOEKOMSTIGE KURSUSSE EN KONGRESSE

Refresher Course on Arthritis
March 21 - 22 Maart 2000
CAPE TOWN / KAAPSTAD

31st Annual Congress and
Instructional Course
9 - 10 September 2000
DURBAN

GENERAL INFORMATION
ALGEMENE INLIGTING

Congress venue	Ruby Auditorium CSIR Pretoria
Cell Phones / Bleepers	All cell phones and bleepers should be turned off during conference sessions
Information Desk	Please feel free to visit the Information Desk should you require any assistance
Smoking	No smoking will be permitted during the conference
Teas and Lunches	Will be served in the trade exhibition area
Parking	Ample parking at the venue

Please wear your name tag at all times

SCIENTIFIC PROGRAMME

CONGRESS

SATURDAY 4 SEPTEMBER 1999

07:30 - 08:00	Registration

SESSION 1

CHAIRMAN: DR. E. BOWEN-JONES

08:00 - 08:05	Welcome, Announcements and Introduction of Dr Paul Smith and Dr Stéphane Romano Dr E Bowen-Jones
08:05 - 08:15	Bilateral radial nerve palsy secondary to lead poisoning Dr N Botoulas
08:15 - 08:20	Discussion
08:20 - 08:45	Pollicisation: The problems associated with and the treatment of Dr P Smith
08:45 - 08:50	Discussion
08:50 - 09:00	Deep branch of the radial nerve – anatomy and variations Dr AK Sehgal
09:00 - 09:05	Discussion
09:05 - 09:15	A Case Study of end-to-side nerve suture into a nerve graft Dr MJ vd Westhuizen
09:15 - 09:20	Discussion
09:20 - 09:30	Severe burn contractures of hand and feet Prof A Madaree
09:30 - 09:35	Discussion
09:35 – 09:45	Results of epineurolysis undertaken on brachial plexus injuries Dr I Eggers
09:45 – 09:50	Discussion
09:50 - 10:30	TEA

SESSION 2

CHAIRMAN: DR J VAN WINGERDEN

10:30 - 10:40	The use of bio-resorbable implants in fractures of the hand	Prof NGJ Maritz
10:40 - 10:45	Discussion	
10:45 - 10:55	An alternative method of internal stabilisation where a wrist internal splint or arthrodesis is indicated	Dr AM Matime
10:55 - 11:00	Discussion	
11:00 - 11:10	Wrist arthrodesis with plate fixation	Dr LT (Wikus) de Jager
11:10 - 11:15	Discussion	
11:15 - 11:25	Carpal translocation after excision of the distal ulna in rheumatoid arthritis	Prof NGJ Maritz
11:25 - 11:30	Discussion	
11:30 - 11:40	Early detection of ligamentous wrist injuries in the Emergency Department	Dr M Wells
11:40 - 11:45	Discussion	
11:45 - 11:55	Extensor carpi ulnaris – the tibialis posterior of the wrist joint in rheumatoid arthritis	Prof NGJ Maritz
11:55 - 12:00	Discussion	
12:00 - 13:00	LUNCH	

PHOTO ; CPD ; Seating tables banquet

SESSION 3

CHAIRMAN: PROF U MENNEN

13:00 - 13:10	MP joint arthroplasty using Sutter-type implants: A critical analysis	Dr A Barrow
13:10 - 13:15	Discussion	
13:15 - 13:25	Functional evaluation of silicon interposition arthroplasty of MP joints in rheumatoid arthritis	Prof NGJ Maritz
13:25 - 13:30	Discussion	
13:30 - 13:40	Early management of extensor deficit of digits in flexor tendon injuries of the hand	Ms L Pringle
13:40 - 13:45	Discussion	

13:45 - 13:55	Flexor tendor injuries in zone 1 + 2: Excursion versus protection – why is this important?	Mrs L Dawe, Mrs L Foster
13:55 - 14:00	Discussion	
14:00 - 14:10	Use of distraction methods in thumb reconstruction	Dr EM Carides
14:10 - 14:15	Discussion	
14:15 - 14:45	TEA	

SESSION 4
CHAIRMAN: DR A MATIME

14:45 - 14:55	Open surgical treatment of elbow contracture in patients age 21 and younger	Prof NGJ Maritz
14:55 - 15:00	Discussion	
15:00 - 15:10	The intra-medullary fixation of metacarpal fractures	Dr G Cappaert
15:10 - 15:15	Discussion	
15:15 – 15:25	Proximal radio-ulnar synostosis	Prof NGJ Maritz
15:25 – 15:30	Discussion	
15:30 – 15:40	Intra-medullary fixation of radial head and neck fractures	Dr G Cappaert
15:40 – 15:45	Discussion	
	Break	
16:00 – 18:30	Hands-on Workshop: Work on sawbones using the Leibinger hand systems: Dr S Romano, Mr Hans van Hees: Howmedica Leibinger Stratmed SA	
16:30 – 17:30	Annual General Meeting / Algemene Jaarvergadering (Members only / Slegs Lede)	
19:30 for 20:00	SASSH Banquet / SAVH Banket	

INSTRUCTIONAL COURSE
SUNDAY 5 SEPTEMBER 1999

07:30 - 08:00 Registration

SESSION 5
CHAIRMAN: DR T LE ROUX

08:00 - 08:30 The results of treatment of Dupuytren's contracture using Skoog's operation Dr P Smith
08:30 - 08:35 Discussion
08:35 - 09:05 Musicians and medically related conditions Prof U Mennen
09:05 - 09:10 Discussion
09:10 - 09:40 Apert's syndrome, surgical management Dr P Smith
09:40 – 09:45 Discussion
09:45 – 10:15 TEA

SESSION 6
CHAIRMAN: DR M CARIDES

10:15 - 10.45 Proximal pole of the scaphoid non-union: New fixation using 2 screws Dr S Romano
10:45 - 10:55 Discussion
10:55 - 11:35 Hypoplastic thumbs: The treatment of hypoplastic thumbs and a proposed new classification Dr P Smith
11:35 - 11:45 Discussion
11:45 - 12:30 AC Boonzaier Lecture Dr E Bowen-Jones
12:30 - 13:30 LUNCH

SESSION 7

CHAIRMAN: DR LT (WIKUS) DE JAGER

13:30 - 14:15	Distraction lengthening in the treatment of radial club hand	Dr P Smith
14:15 - 14:20	Discussion	
14:20 - 14:50	Radio-carpal osteoarthritis: Indications and current trends of carpal fusion	Dr S Romano
14:50 - 14:55	Discussion	
14:55 - 15:15	Epidermolysis bullosa	Dr P Smith
15:15 – 15:20	Discussion	
15:20 – 15:40	CMC Arthroplasty	Dr P Smith
15:40 – 15:45	Discussion	
15:45	Closure by President	

SUMMARIES OF PAPERS

1. BILATERAL RADIAL NERVE PALSY SECONDARY TO LEAD POISONING
Dr N Botoulas, Dr WB Stuart, Dr JH Fleming

We present a case of bilateral radial nerve palsy secondary to occupational exposure to lead. The symptoms and signs of lead neuropathy in the upper limb are discussed, as well as the medical and surgical treatment. A brief outline of the occupational exposure to lead in South Africa is included.

2. DEEP BRANCH OF THE RADIAL NERVE; ANATOMY AND VARIATIONS
AK Sehgal, AA Missankov, U Mennen

The normal anatomy and the variations of the deep branch of the radial nerve (DBRN) have been extensively studied. However, in these studies an emphasis was placed mainly on the variations in the innervation order of the extensor muscles of the forearm.
The aim of the present study was to define the anatomy and variations of the DBRN and expand upon previous data.
The upper extremities of fifty-eight cadavers were used. The extensor muscles of the forearm and the DBRN were dissected from the elbow joint to the metacarpophalangeal joints. The nerve and its branches were painted and photograhed.
Forty-three limbs (74%) presented normal anatomy of DBRN. In 2 limbs (3,5%) the nerve was running superficial to the supinator muscle and in 3 limbs (5,2%) deep to this muscle. In 4 cases (6,9%) the short branches took origin from a common stem which splits from the DBRN proximal to the lower border of the supinator muscle. In 1 limb (1,7%) the long branches were bridged by an anastomosis found 1cm distal to the lower border of the supinator. In 1 case (1,7%) the terminal branch of the nerve was applied to the ulnar side of the IVth dorsal compartment of the wrist. In two limbs (3,5%) a branch arising from the pseudoganglion of the DBRN was supplying an additional extensor indicis brevis manus muscle. In 2 others (3,5%) a branch also arising from the pseudoganglion was entering the third dorsal interosseous muscle.

The presence of an anastomosis, the ulnar position of the terminal branch of the DBRN in the IV dorsal compartment of the wrist and the branch to the third dorsal interosseous muscle are variations reported for the first time.
In conclusion, it is believed that the knowledge of these new variations could be useful in performing operations in the vicinity of the nerve, its repair, forecasting location of a compressive lesion and predicting order of recovery of the muscles.

3. CASE STUDY OF END-TO-SIDE NERVE SUTURE INTO A NERVE GRAFT
Dr MJ van der Westhuizen, Prof U Mennen

A 23 year old male patient was involved in a motor vehicle accident in August 1995. He sustained an open radius and ulna fracture with severe soft tissue loss on the volar side of his forearm with severed of both his ulna and median nerve.
An open reduction and internal fixation for his radius and ulna fractures and skin graft was done for his initial treatment at a peripheral hospital. He presented in August 1997 to us with a stable radius and ulna but no recovery of his ulna and median nerves and a large scar on the volar side of his forearm. Clinically he had low ulna and median nerve palsy with no sensation and 0/5 motor function of the intrinsic muscles of his hand.
Several treatment options were considered, but after recent advances in end-to-side nerve suture, it was decided on 18 September 1997 to do a graft for the median nerve using the proximal part of the ulna nerve to bridge the gap in the median nerve. An end-to-side suture of the ulna nerve to the graft was done at the same time. A EPL opponens plasty was done as part of a reconstruction program.
At 18 months follow-up, the patient already had full return of his sweat pattern and tactile recovered sensation to his hand. Intrinsic muscle power measured 2+ (MRC).
We will present our clinical results at 2 years' follow-up.

4. SEVERE BURN CONTRACTURES OF HAND AND FEET
Prof A Madaree

Burn contractures of the hand and feet are still common sequelae of burns. This is due to the severe initial injury or lack of proper management or combination of both. In our unit, we often see severe burn contractures of the hands and feet. This results in gross deformities of the joints, soft tissue and bone. The challenge is to release these contractures to help improve the function of the hand and feet. Because of the severity of these contractures, a local release and skin graft is not adequate. Flaps are usually required. Local flaps are often compromised because they are usually involved by the burn injury. Therefore these flaps have to be modified to ensure their vascularity.

We will present our series of these severe burn contractures. This will include pre, intra and post-operative findings. Our assessment and method of reconstruction will be discussed.

5. RESULTS OF EPINEUROLYSIS UNDERTAKEN ON BRACHIAL PLEXUS INJURIES
Dr Ilse M Eggers, Prof U Mennen

The healing process after severe trauma to the brachial plexus inevitably results in scar tissue formation. Its constrictive nature may present symptoms of upper limb paralysis, pain and anaesthesia in the dermatomes although the nervous tissue is still in continuity. Epineurolysis undertaken at the Ga-Rankuwa Hospital show good results both in the clinical examination and the functional evaluation.

Of the 22 cases who were selected for an epineurolysis, 9 required additional surgery in the third stage of rehabilitation. A comparison, using a functional evaluation (EFFUL System) is made between the 13 (50.9%) patients who did not require additional surgery and the 9 (40.9%) patients who did require additional surgery.

Each patient receives an EFFUL-o-gram (a patient profile) which clearly sets out the individual improvement in a quantitative manner. The clinica. findings and the overall EFFUL-o-gram of the 22 patients under review, will be presented. The symptomatic benefit of an epineurolysis can cearly be measured by the EFFUL System.

6. THE USE OF BIO-RESORBABLE IMPLANTS IN FRACTURES OF THE HAND
Prof NGJ Mar'tz

Currently, the problem of internal fixation of fractures of the p-oximal and middle phalanges of the fingers remains unsolved.

The aim of this repcrt is to illustrate the value and efficacy of a specially designed insert made of Poly-L-Lactide for the purpose.

Method:
There were 12 cases of transverse or oblique fractures of the proximal and middle phalanges and the series included 1 fracture of the metacarpal. The same method was applied in the case of compound fractures, or when extension block plaster case had failed. The method of fixation will be demonstrated.

Results:
In 10 patients excellent alignment and bony union were obtained. Range of movement was near normal when measured. In two cases, some displacement of the fragments occurred, but no further procedure was necessary and recovery of function took place. Healing without sepsis took place in all cases and there was no reaction to the Poly-L-Lactide insert at the time of reporting.

Conclusion:
Poly-L-Lactide rods in the management of fractures of the proximal and middle phalanges and the metacarpal shaft have proved effective, without serious complications.

Clin Orth Rel Res 1987 (Stern)
JHS 1991 (Pun) } Plate c'

7. AN ALTERNATIVE METHOD OF INTERNAL STABILISATION WHERE A WRIST INTERNAL SPLINT OR ARTHRODESIS IS INDICATED
Dr AM Matime

AIMS:
The paper presents an alternative method of stabilisation where internal splinting of the wrist joint is indicated.

METHOD:
Two cancellous screws are used to obtain internal stabilisation of the wrist. A standard longitudinal dorsal surgical approach to the wrist joint is used.

The articular cartilage is denuded with rongues. The position and alignment of the wrist are chosen to meet the needs of the individual patient. The placement of the cancellous screws is aided by intra-operative imaging and where possible, cannulated screws are used.

Post-operatively the wrist is immobilised in a plaster case for about six weeks.

RESULTS:
Good union rates have been obtained, comparable to other stabilisation methods. The literature is reviewed and overall patient satisfaction evaluated.

CONCLUSION:
The cancellous screw internal splinting of the wrist offers a viable alternative where wrist arthrodesis is indicated and there are a few advantages over the traditional methods, which are discussed.

8. WRIST ARTHRODESIS WITH PLATE FIXATION
Dr Wikus de Jager

The advantage of a plate fixation for wrist arthrodesis is that external immobilisation in a cast is not necessary. The technique used is a modified AO technique, using a small dynamic compression plate or titanium wrist arthrodesis plate.

The modification used is to apply the plate to the index metacarpal rather than the middle metacarpal, continuing onto the radius. The index and middle finger carpo-metacarpal joints are also arthrodesed. A bone graft is added from the illiac crest. Additional external immobilisation is not required. The position of arthrodesis is with the wrist in ± 20° extension and the wrist between neutral and a maximum of 10° ulnar deviation. This is achieved by resting the clenched fist on the operating table during surgery. A physiotherapy programme for pronation and supination and finger movements is commenced within the next 2 days.

The results of 18 wrist arthrodeses are presented. There were no non-unions. One superficial infection occurred. One WCA case had persistent pain despite bony union.

9. CARPAL TRANSLOCATION AFTER EXCISION OF THE DISTAL ULNA IN RHEUMATOID ARTHRITIS
Prof NGJ Maritz

INTRODUCTION:
Resection of the distal ulna alone, dramatically improves the rheumatoid patient's symptoms. It has, however, been suggested that removal of the ulnar buttress of the wrist accentuate some of the deformities of the wrist.

The purpose of the study was two-fold:
1. To report on the patient's evaluation of the procedure, and
2. To determine on follow-up x-rays the radio-capitate space and the presence or absence of carpal translocation.

METHOD:
During the period January 1992 to January 1997, a distal ulnar resection was done on 12 patients. Radiographic evaluation was completed on all patients. Eight patients responded to a questionnaire. The follow-up was for a minimum of 36 months.

RESULTS:
All the patients rated the procedure at 8 or better (0 dissatisfied – 10 very satisfied), except for one patient, who rated it a 7. On radiographs, there was no more than 2 mm shift. No serious complications were noted.

DISCUSSION & CONCLUSION:
Excision of the distal ulna in rheumatoid arthritis offers excellent pain relief and can be rated as a winner procedure. Carpal translocation is not a common complication and in most patients a distal ulna resection is adequate.

10. EARLY DETECTION OF LIGAMENTOUS WRIST INJURIES IN THE EMERGENCY DEPARTMENT
Dr M Wells, Dr N Freed

AIMS OF STUDY:
Missed ligamentous injuries of the wrist, which are common following wrist trauma, can result in serious long-term complications: accelerated osteoarthritis, chronic pain and loss of wrist mobility. Since clinical and radiological detection of ligamentous injuries can be very difficult, wrist arthroscopy has a significant role both in diagnosis and in the acute management of such injuries. The difficulty is to determine which patients should undergo arthroscopy and which can be treated conservatively, without missing any occult ligamentous injuries. Anatomical studies have demonstrated that the volume of fluid injected into the radiocarpal joint is related to injuries to the wrist ligaments: with ligamentous injuries there is disruption of the joint capsule and free flow of fluid into the surrounding joints and periarticular space. The use of a cut-off value for the volume of fluid injected into the radiocarpal joint to predict ligamentous injury and therefore the need for arthroscopy would be of great benefit in the emergency room.

METHODS:
All patients with significant wrist trauma presenting to the Emergency Department at Garden City Clinic were entered into the study. Conventional radiographs were taken and patients with fractures of the distal radius, ulna or carpals were excluded from the study. All patients then had an intra-articular injection of bupivicaine into the radiocarpal joint with the exact volume of injected fluid recorded. They then underwent elective wrist arthroscopy according to standardised techniques, with documentation of anatomical wrist injuries.

RESULTS:
Sixteen consecutive patients with wrist injuries were recruited over a 2 month period. The Table summarises the correlation between injected volumes and arthroscopic findings.

Table:

Volume Injected	Arthroscopic Findings
<5ml	5 patients with normal anatomy
>5ml*	1 patient with normal anatomy†
	4 patients with triangular cartilage tear
	4 patients with scapholunate tear
	2 patients with multiple tears

*Of these 11 patients, the 7 with >8ml injected had severe or multiple ligamentous injuries.
†suspicion of unseen dorsal ligament/retinaculum tears

CONCLUSIONS:
The incidence of significant ligament injuries in the wrist was surprisingly high and many of these injuries would not normally have been detected. Volumes greater than 5 ml injected into the radiocarpal were highly suggestive of ligamentous disruption; volumes greater than 8 ml indicated major injuries. An injection of less than 5 ml was indicative of an intact joint capsule and ligaments. This method of predicting injuries is cheap, successful and reliable. It should be used in all patients with acute wrist trauma to triage patients for further investigation and early, appropriate management of potentially problematic injuries.

11. EXTENSOR CARPI ULNARIS – THE TIBIALIS POSTERIOR OF THE WRIST JOINT IN RHEUMATOID ARTHRITIS
Prof NGJ Maritz

We are all aware of the importance of tibialis posterior tendon of the foot in rheumatoid arthritis. With rupture of the tendon, the whole foot collapses and a severe flat foot is the result.

I believe the ECU is the tibialis posterior of the hand. Once the ECU is weakened or ruptured, the whole wrist will drift into radial deviation, which is a well-known entity and the carpal bones will start to collapse into supination.

Once this has happened, the deformity will spread to the rest of the wrist and hand. This sequel was confirmed in 35 dorsal wrist operations that were done from 1992 to 1997. The following recommendations are thus made:

1. Synovitis around the ECU is common – an early synovectomy is mandatory.
2. With a dorsal synovectomy the ECU must be checked.
3. If it is frayed or ruptured, the extensor carpi radialis brevis must be transferred to the implantation of the ECU.

12. MP JOINT ARTHROPLASTY USING SUTTER TYPE IMPLANTS: A CRITICAL ANALYSIS

Dr A Barrow, Prof S Biddulph, Mr D Van der Jagt, Dr M Barrow

AIM:

This study looked at metacarpophalangeal arthroplasties performed over an eight-year period. A superficial analysis of results indicated that while the prostheses used initially gave superior results in terms of range of movement, there appeared to be an unacceptably high rate of implant failure. This paper sets out to prove this hypothesis.

METHOD:

84 MP joint arthroplasties performed over an eight-year period were available for follow-up. In all cases Sutter type implants were used. Most of the patients had joint replacement on account of rheumatoid arthritis and a few had the procedure following trauma. Post-operative deformity correction, range of movement, patient satisfaction, complications and long-term implant survival were analysed.

RESULTS:

Post-operative deformity correction, as assessed radiologically was very good. Range of movement obtained compared favorably and surpassed results from other prostheses. Patient satisfaction was by and large good. The major complications were silicone synovitis and implant failure. An implant failure rate of 23,8% was demonstrated.

CONCLUSION:
While MP joint arthroplasty using Sutter implants provides superior short-term results, implant failure appears to be unacceptably higher than with some other prostheses.

13. FUNCTIONAL EVALUATION OF SILICON INTER-POSITION ARTHROPLASTY OF MP-JOINTS IN RHEUMATOID ARTHRITIS
Prof NGJ Martz, Mrs I Shipham

It is generally considered that silicon inter-position arthroplasty of the MP-joints in R.A hands is effective pain relief and cosmesis. The question is, does it improve the function of the hand? The aims of this study are:

1 To assess functional improvement after MP arthroplasty.
2 To assess patient satisfaction.

METHOD:
Thirty-two silicon arthroplasties were performed on 8 hands in 6 patients. The minimum follow-up period was 24 months. Six hands were functionally evaluated pre-operatively and 8 hands post-operatively. The range of movements of the MP-joints and the degree of ulnar deviation were measured post-operatively. The patients' own rating of function and cosmesis were also recorded on a 10-point analog scale.

RESULTS:
Hand function was measured with the Smith test. Results were mixed: One patient clearly benefitted with improvement in both unilateral and bilateral tasks. On the other hand, one patient had clearly lost functional ability as well as strength in both hands. MP-joint flexion varied from 14° to 55° and average range of movement was 38°. Recurrent ulnar deviation varied from 7° to 10°. The patients' rating of the procedure are as follows:

Function 7,5
Cosmesis 7
All over satisfaction 8,5

CONCLUSION:
Although a small number of patients, this study is important in that it is an effort to do an outcome measurement. It shows that patient satisfaction and measured function not always correlates.

14. EARLY MANAGEMENT OF EXTENSOR DEFICIT OF DIGITS IN FLEXOR TENDON INJURIES OF THE HAND
Ms Lynne Pringle

AIMS:
On average at ± 6 weeks post injury, a patient's protective splint is removed and full active flexion and extension commences. An extensor deficit and flexion contracture at the PIP joint and DIP joint is a common complication. Many have oedema present at the PIP joint. This necessitated extended treatment sessions and cost to patient, frustration to patient and therapist, negative effect on patient compliance, probable permanent extension deficit – affecting grasp and release and ultimately hand function.

METHOD:
Finger pressure sleeves were applied and anchored on the positioning splint for night time wear. This method is applicable for all flexor tendon regimes.

RESULTS:
Reduction of oedema and stiffness was achieved as well as full passive and active PIP joint and DIP joint extension. Flexion ROM was not impaired. Statistics will be shown including control group.

CONCLUSION:
Using anchored pressure sleeves for passive extension and reduction of oedema in digits post flexor tendon injury has significantly decreased and prevented extensor deficit.

15. FLEXOR TENDOR INJURIES IN ZONE 1 & 2: EXCURSION VERSUS PROTECTION – WHY IS THIS IMPORTANT?
Mrs Liane Dawe, Mrs Lauren Foster

Independent of the regime in use, the general aim of treating

flexor tendon injuries in zone 1 & 2 is to modify peritendinous adhesions by promoting excursion at the repair site but also respecting the healing process.

An understanding of the functional anatomy and the mechanics of the flexor apparatus clearly shows the complexity of treating these injuries. An ineffective flexor apparatus impacts on grasping and prehension ability, grip strength and in-hand manipulation, which clearly hinders overall hand function. Thus therapeutic treatment which promotes effective hand function is imperative.

Current treatment regimes included the Kleinert Method or a modified version thereof and an Early Active Mobilisation regime. A fresh look at these regimes with emphasis on adequate excursion and protection was taken in terms of physiotherapy and occupational therapy.

It has been show that the establishment of a team approach in which the patient is a key player, is fundamental to the successful outcome and that failure is often related to miscommunication by the rehabilitation team and lack of responsibility on the patient's part.

16. USE OF DISTRACTION METHODS IN THUMB RECONSTRUCTION
Dr EM Carides

Fourteen patients who underwent thumb lengthening over a 4 year period have been reviewed. Lengthening was performed for terminal deficiency in 9 cases and for segmental bone loss in 5 cases.

The callotasis method was used in 8 patients and the Matev method in 6. The Orthofix mini-external fixator was used as the distracting device in all cases.

Final gains in length achieved measured from 22mm to 36mm, with an average fixator application time of 89 days (range 68 to 115). Complications included 1 malunion, 1 overlengthening, 2

pin migrations through bone and 4 cases of pin track sepsis. There were no skin or neurovascular complications.

Cases are demonstrated and complications discussed, concluding that these techniques are safe and where indicated, provide a useful alternative to other methods of thumb reconstruction.

17. OPEN SURGICAL TREATMENT OF ELBOW CONTRACTURE IN PATIENTS AGE 21 AND YOUNGER

Prof NGJ Maritz, Anthony A Stans, BF Morrey

INTRODUCTION:
Elbow contracture is a common sequalae of traumatic and developmental pediatric elbow disorders. However, there is a paucity of information in the English literature on surgical treatment results for this problem. The purpose of this study is to report open surgical treatment results of elbow contracture in patients age 21 and under.

METHOD:
Between January 1979 and January 1997, 39 patients age 21 or younger underwent surgical treatment for elbow contracture. Charts and radiographs were reviewed with follow-up data of at least 6 months available for 37 patients. Mean duration of follow-up was 15 months (range 6-44 months) and mean age at the time of surgery was 15.8 years (range 10-20 years). Elbow contracture etiology was post-traumatic in 28 patients, caused by osteochondritis dissecans of the capitellum in 4, secondary to a brachial plexopathy in 3, and the result of arthrogryposis or spondyloepiphyseal dysplasia in 1 each. CPM was used in the immediate post-operative period in 26 patients and 31 patients received an axillary block post-op. Thirty-one patients were treated with extension splinting post-operatively when not in CPM.

RESULTS:
Despite achieving significant improvement in ROM intra-operatively, final follow-up demonstrated only modest lasting improvement.

There were 5 complications; 2 patients had persistent contracture with no improvement in ROM, 1 patient had a deep infection requiring debridement; 1 patient sustained a transient radial nerve palsy that completely resolved; and 1 patient developed a haematoma that required surgical evacuation.

DISCUSSION AND CONCLUSION:
Surgical treatment of paediatric elbow contracture resulted in modest ROM improvement in this patient series. Range of motion improvement was slightly less than the improvement reported in most series of adult patient undergoing a similar procedure. Based on the results of this study, clinicians treating elbow contractures in pediatric patients should consider focusing on non-operative treatment methods under adulthood.

18. THE INTRA-MEDULLARY FIXATION OF METACARPAL FRACTURES
Dr G Cappaert

The treatment of metacarpal fractures has been done by closed reduction and Plaster of Paris. The problem with this has been that you can have loss of reduction after the swelling goes down. This again may cause a painful prominence in the palm of the hand.

AIM:
Our aim was to see if this technique is effective in terms of maintaining reduction, early mobilization, as well as union rate.

METHOD:
This study was done between September 1996 and February 1999. In this time span, we operated 60 patients with metacarpal fractures. Technique: After doing a closed reduction, we open the shaft of the metacarpal via a small incision at the base. We then insert 2-3 K-wires over the fracture into the head of the metacarpal.

RESULTS:
All the patients came to union. There was only one patient with a poor result. The only problem that we had was the prominence of

the subcutaneous wires when shaking hands.

CONCLUSION:
We thus conclude that this is a very inexpensive way of fixation which gives good results in terms of union and early mobilization.

19. PROXIMAL RADIO-ULNAR SYNOSTOSIS

Prof NGJ Maritz

INTRODUCTION:
Loss of rotation of the forearm as a result of post-traumatic radio-ulnar synostosis substantially decreases function of the upper limb. Several operations are proposed for the problem, the most common being excision of the proximal radio-ulnar synostosis with or without interposition of a variety of materials.

In type III B and III C, this is a difficult procedure, with indifferent results. The purpose of the present study was to evaluate the results of resection of 1cm of radius, distal to the synostosis, without interfering with the synostosis.

MATERIALS AND METHODS:
Twenty-four operations were performed at the Mayo Clinic from 1988-1998. In 5 of these cases, a resection of ± 1cm of radius was done distal to the synostosis. All cases were post-traumatic and Vince Miller Type III B or C. No radiation or Indomethacin was given.

RESULTS:
The range of movement improved initially from 0° to 120 ° of pro- and supination. At ± 3 months follow-up, it was 80° pro- and supination.

CONCLUSION:
This procedure has not been previously reported, but the advantages are that it is simple, safe, effective and without post-operative complications.

20. INTRA-MEDULLARY FIXATION OF RADIAL HEAD AND NECK FRACTURES

Dr G Cappaert

The treatment of radial head and neck fractures has been very controversial. The treatment varies between closed reduction, open reduction and internal fixation and excision of the head. The Mason type 3 fractures are the most difficult to treat.

AIM:
We want to introduce a method of fixation that has been very effective and inexpensive in the treatment of these fractures.

METHOD:
This study was done between September 1997 and February 1999. In this time we have treated 14 patients with this technique.

The technique is as follows:

We do either a closed or open reduction of the fracture. We augment the radial head fracture with lag screws if needed. The radius is opened over the M Pronator Teres insertion and 2-3 K-wires are inserted via a drill-hole over the fracture. The patient is placed in an above elbow POP for 2 weeks after which mobilization is started.

RESULTS:
Of the 14 patients 2 had poor results. The other 12 came to union and had good range of motion.

CONCLUSION:
We conclude that this technique is an effective and inexpensive way of treating fractures of the radial head. It is also a safe technique even for the less experienced surgeon.

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