The SOUTH AFRICAN SOCIETY for SURGERY of the HAND

39th Congress

NH The Lord Charles Hotel

Somerset West

29 – 31 August 2008

CONGRESS PROGRAM

THE SOUTH AFRICAN SOCIETY FOR SURGERY OF THE HAND
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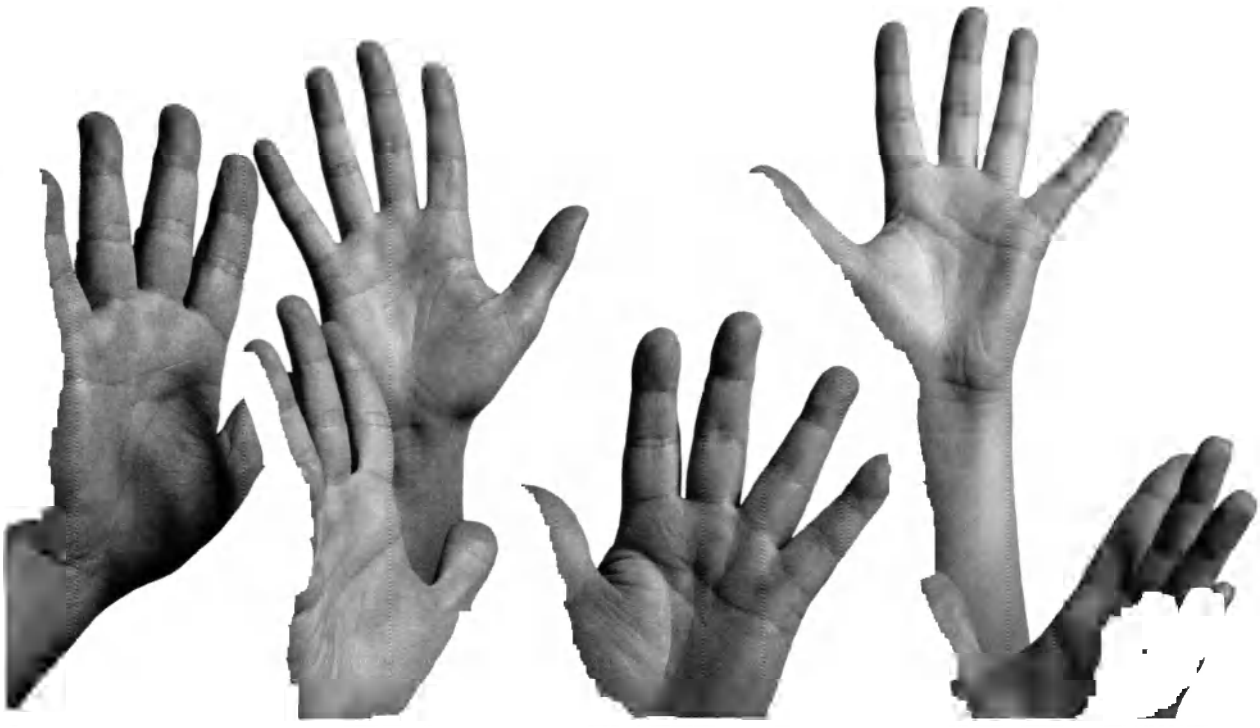
Contents



Message from the President of SASSH

Martin Wells

Dear Members, Participants and Colleagues

Welcome to the Western Cape, the Mother City, and to this, the 39th Annual Congress of the South African Society for Surgery of the Hand.

Our Society is well and active thanks to the busy members and to your support and participation in our instructional courses and annual congresses. We as Executive Committee strive to serve our members and expand the education of hand surgery to all corners of South Africa.

I extend a special welcome to our esteemed invited guest, Professor Marybeth Ezaki from Texas Scottish Rite Hospital for Children, Dallas, Texas. Prof Ezaki is an international authority on Paediatric Upper Limb problems and we thank her for sharing her experience with us, especially during the Instructional Course lectures interwoven in our handpicked program. I welcome also to our Congress Professor Joe Dias, experienced hand surgeon from Leicester, United Kingdom. As invited guest of the SAOA he has been gracious to offer to us his time and experience.

Thank you to the trade for your generous support which allows us to host the Congress, and for the welcome function. The support of the trade encourages research and free papers also by way of prizes. Thank you to Michael Solomons for leading the scientific committee and to Hendrika van der Merwe, organizing secretary whose arrangements and hard work behind the scenes have made this Congress happen.

All this of course is only possible because of you, special delegates, guests and speakers, who are invited to relax, take part in discussion and make new friends, while renewing old acquaintances (synonyms: associates, friends, links, contacts). We hand surgeons and therapists, being human, need such collegial friendships for the sake of our patients and the fostering of the Science and Art of Hand Surgery in our country.

Message from the Congress Chairman

Michael Solomons

The Cape in winter is a special place. It can range from "The Fairest Cape in all the World" with crisp, clear, windless days to "The Cape of Storms" with vicious North Westerlies and cold fronts. It makes for log fires, red wine and WARM hospitality.

I would like to officially welcome our overseas speakers, the supporting trade and most importantly, you, the delegates, who give us a forum to discuss the Art and Science of Hand Surgery.

Our invited speakers are:

- Professor Marybeth Ezaki from Texas Scottish Rite Hospital for Children, Dallas Texas. She is a world authority on Paediatric Upper Limb Problems and Pathologies, including Upper Limb Paediatric Trauma. She will share her enormous experience with us
- Prof Joe Dias from Glenfield Hospital, Leicester, United Kingdom. He has specific interest in the Wrist, Scaphoid and Dupuytren's Disease

We look forward to their thoughts and views.

I would also like to thank all the presenters of what amounts to a record number of free papers.

The trade exposes us to cutting edge technology and hardware. We thank them for their participation and urge you to support them as they support us.

A huge thanks to Hendrika van der Merwe for her professional and dedicated efforts in ensuring the success of these meetings.

And finally, I urge all involved to help make this meeting as valuable as possible by encouraging dialogue and discussion:

"If you don't understand – ASK ; If you don't agree - CHALLENGE"

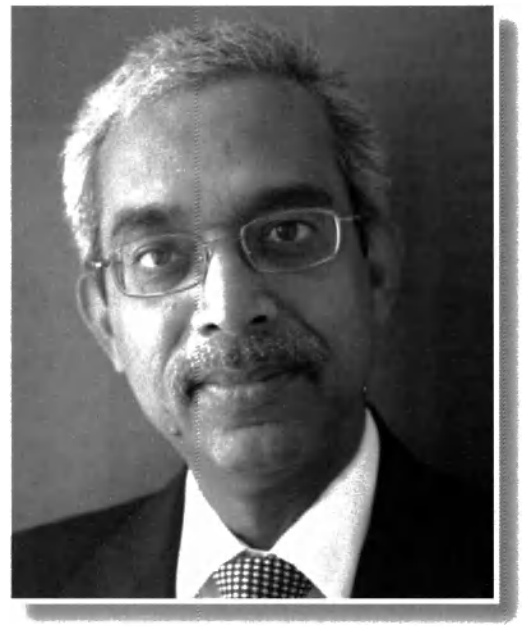
Thank you and have a great meeting.

International Visitors

Marybeth Ezaki

- Professor, Orthopaedic Surgery Texas Scottish Rite Hospital for Children University of Texas Southwestern Medical School
- Received Undergraduate Degree from Yale University and Orthopaedic Residency in Dallas, Texas
- President: American Society for Surgery of the Hand 2001 to 2002
- Reviewer: Journal of Hand Surgery, Journal of Bone and Joint Surgery, Journal of Pediatric Orthopaedics
- 5 invited articles, 18 book chapters, 21 journal publications, more than 50 presentations and exhibits at National and International Meetings and visiting Professorships

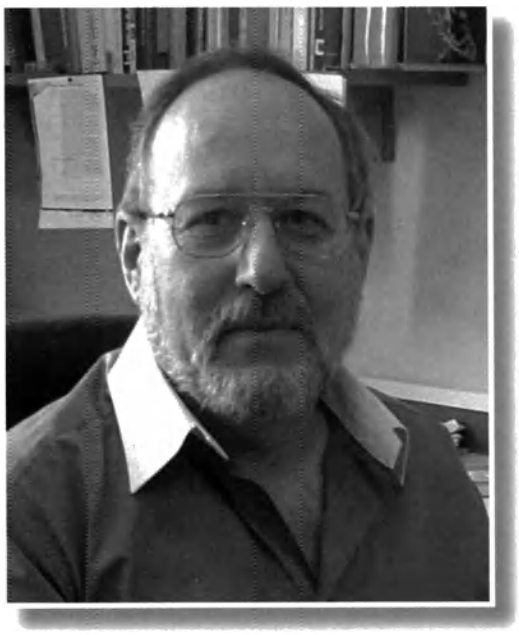
Joe Dias



- Received his medical Degree from Grant Medical College, Bombay University in 1981. He then specialised in the UK and received his FRCS in 1983 (Edinburgh) and 2003 (UK)
- Awarded a Doctorate of Medicine for a thesis on Scaphoid Fractures in 1989
- Honorary Senior Lecturer, Orthopaedic Surgery, University of Leicester
- 72 Peer reviewed articles, 9 chapters in 9 text books
- Editorial Board Member, The Journal of Hand Surgery
- President elect for the British Society for Surgery of the Hand in 2007
- Well over a hundred National and International Lectures in Hand Surgery

AC Boonzaier Lecture – Invited Speaker

Alan Morris



Alan G Morris is currently Professor in the Department of Human Biology at the University of Cape Town. A Canadian by birth and upbringing, Professor Morris is also a naturalised South African. He has an undergraduate degree in Biology from Wilfrid Laurier University in Waterloo Ontario, and a PhD in Anatomy from the University of the Witwatersrand in Johannesburg. Professor Morris has published extensively the origin of anatomically modern humans, and the Later Stone Age, Iron Age and Historic populations of Malawi, Namibia and South Africa. He has an additional interest in South African history and has published on the history of race classification, the history of physical anthropology in South Africa and on the Canadian involvement in the Anglo-Boer War.

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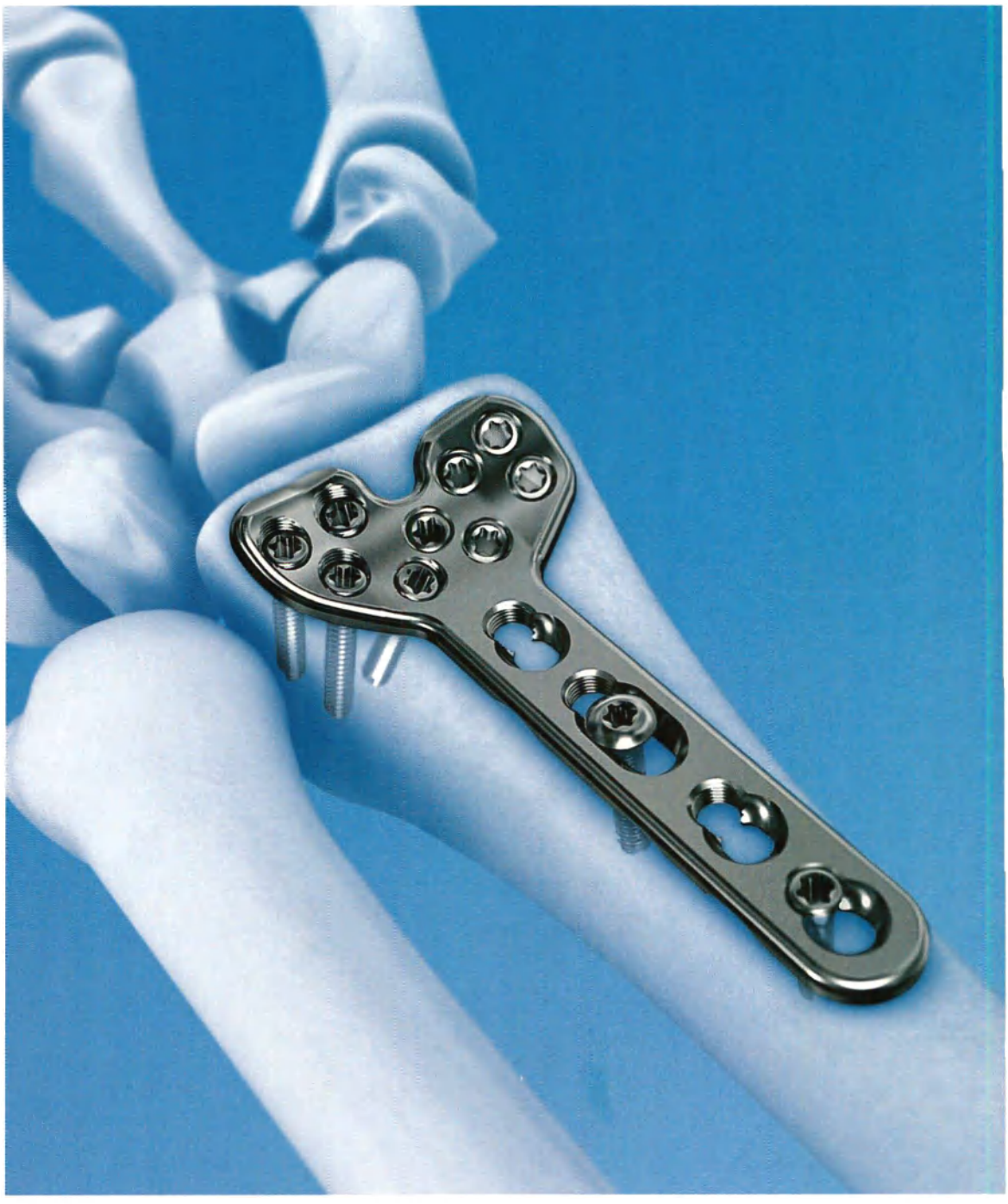

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- Southern Medical
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- Synthes (Pty) Ltd
- The National Tissue Bank, University of Pretoria
- Werkomed (Pty) Ltd

Sponsors

Audiovisual Services:	**Werkomed (Pty) Ltd**
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Pre-drinks:	**Bone SA**
Printing:	**The National Tissue Bank, UP**
Wine:	**Macromed cc**
Financial Contribution:	**Life Health Care**
Registration: (Congress file, stationery, name badge and gift)	**Stratmed**
Tea session:	**Southern Medical**

The SASSH wishes to thank all trade delegates for their participation and their generous sponsorship

General Announcements/ Congress Information

CPD Register

Discovery Health will handle the CPD formalities on a daily basis and will be located at the Registration Desk. You will receive notification to download your certificate

Dress Code

Casual attire for congress sessions and smart casual for the social functions

Important

Name badge: It is important to wear your name badge during the congress. Only delegates wearing name badges will be permitted to enter the lecture hall, exhibition area and the social functions

The use of mobile phones in the lecture hall is not permitted

Information For Speakers

Keeping to your allocated time is a courtesy to all following speakers. The chairs of the sessions have been instructed to exert tight control and interrupt lengthy presentations. Please make sure you are aware of the time allotted to you for your presentation

Please hand your presentation to the audiovisual technicians at least 3 hours prior to the session in which the presentation is being given. They will be available in the congress venue to receive your material

Information/Registration Desk

The Information/Registration Desk will be situated in the Foyer of the Conference Area
Please feel free to visit the Desk should you require any assistance

Language

The official language of the congress will be English. No simultaneous translation service will be provided

Smoking

In accordance with Government Legislation regarding smoking in public areas, kindly note that this venue is a non-smoking area

Trade Exhibitors

Kindly make every effort to visit all the stands
Teas and lunches will be served in the trade exhibition area

2008 Congress Organizing Committee

Congress Chairman: **Michael Solomons**
Congress Coordinator: **Hendrika van der Merwe**

Social Events

Welcome Cocktail Function

Friday 29 August 2008
18:00 – 19:30
Exhibition Area
NH The Lord Charles Hotel
Dress: Casual

Congress Dinner

Saturday 30 August 2008
19:30 for 20:00
Ball Room
NH The Lord Charles Hotel
Dress: Smart Casual

Future Events

Annual Refresher Courses

2009	Topic	Congenital Deformities, Anatomy, Microsurgery, Biomechanics
	Date	20-22 February 2009
	Venue	Elangeni Hotel, Durban
2010	Topic	Nerve, Pain, BPI, Sudeck's, Tendon Transfers
	Date	TBA
	Venue	Cape Town
2011	Topic	Infection, Tumors, Rehabilitation
	Date	TBA
	Venue	Bloemfontein

Annual Congresses

2009	40th Congress and Instructional Course	
	Date	TBA
	Venue	Drakensberg Area, Kwa-Zulu Natal
2010	41st Congress and Instructional Course	
	Date	3-5 September
	Venue	Pretoria
2011	42nd Congress and Instructional Course	
	Date	2-4 September
	Venue	Port Elizabeth

Office Bearers

President	MC Wells
Immediate Past President	TLB le Roux
Honorary Secretary/Treasurer	M Daya
Members	M Carides M Solomons J van der Westhuizen
Executive Secretary/Congress Co-ordinator	H van der Merwe
Office	2721, Bellville SA 7535 021 9103322 021 9103838 www.sassh.co.za sassh@iafrica.com

Past Presidents

1969-1971	I Kaplan
1971-1973	AC Boonzaier
1973-1975	M Singer
1975-1977	JH Youngleson
1977-1979	TL Sarkin
1979-1981	CE Bloch
1981-1983	SL Biddulph
1983-1985	WMM Morris
1985-1987	LK Pretorius
1987-1989	KS Naidoo
1989-1991	SL Biddulph
1991-April 1992	BJ van R Zeeman
April 1992-1993	SL Biddulph
1993-1995	JH Fleming
1995-1997	U Mennen
1997-1999	EJ Bowen-Jones
1999-2001	LT de Jager
2001-2003	JJ van Wingerden
2003-2005	M Carides
2005-2007	TLB le Roux

AC Boonzaier Memorial Lectures

1997 PROF ULRICH MENNEN
"The Appreciation of the Hand"

1998 DR JOHN YOUNGLESON
"Reminiscing the Past"

1999 DR EDWARD BOWEN-JONES
"Bamba Isandla Qualities of a Leader in Hand Surgery"

2000 PROF KS NAIDOO
"Overview of Hand Surgery"

2001 DR LT (WIKUS) DE JAGER
"The Future of Hand Surgery in South Africa"

2002 PROF SYD BIDDULPH
"The Hand – A Mirror of Disease"

2003 DR JAN VAN WINGERDEN
"The Joy of Medical Discovery"

2004 DR INGRAM ANDERSON
"The Hand – Cogitations of a Rheumatologist"

2005 DR MICHAEL CARIDES
"But, on the other hand....."

2006 PROF MICHAEL TONKIN
"On Surgeons, Heads, Hearts and Hands – A Philosophy"

2007 PROF THEO LE ROUX
"Hand-outs from the Mind"

Annual General Meeting

Saturday 30 August 2008 17:15 – 18:00

Somerset Suites, NH The Lord Charles Hotel **(Members only / Slegs Lede)**

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Welcome Address by the President
Verwelkoming deur die President

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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 President Elect
Aankondiging van Aangewese President

9

Membership
Lidmaatskap

10

General
Algemeen

11

Next Annual General Meeting
Volgende Algemene Jaarvergadering

Scientific Program

Friday 29 August 2008

17:00-18:00	Registration	Conference Area
18:00-19:30	Welcome Function presented by the Exhibitors	Conference Area

Saturday 30 August 2008

07:15-07:50	Registration	Conference Area
07:50-08:00	Welcome and Announcements	Michael Solomons: Congress Chairman; Martin Wells: President

Session One

Chairmen: Dr Martin Wells & Prof Joe Dias

08:00-08:10	Beware the Essex-Lopresti Injury	Ulrich Mennen
08:10-08:15	Discussion	
08:15-08:35	Compartment Syndrome and Reconstructive Approaches to Volkmann's Ishemic Contracture	Marybeth Ezaki
08:35-08:45	Discussion	
08:45-08:55	Distal Radial Osteotomy from a Volar Approach	Andrew Barrow
08:55-09:00	Discussion	
09:00-09:10	Open Repair of TFCC Tears with DRUJ Instability	Adriaan Smit
09:10-09:15	Discussion	
09:15-09:25	Complications with Volar Radial Plating	Andrew Barrow
09:25-09:30	Discussion	
09:30-09:40	Transthecal Flexor Sheath Block for Finger Surgery in a Resource Limited Setting	Kevin MacIntyre, Ajmal Ikram
09:40-09:45	Discussion	
09:45-09:55	Long Term Results of Pyrocarbon PIP Implants	Corrianne van Velze
09:55-10:00	Discussion	
10:00-10:30	TEA	

Session Two

Chairmen: Drs Michael Carides & Ajmal Ikram

10:30-10:40	Needle Aponeurectomy for Dupuytren's Contracture of the Hand	Marc Nortje, Michael Solomons
10:40-10:45	Discussion	
10:45-11:05	Cerebral Palsy and Upper Limb Spasticity	Marybeth Ezaki
11:05-11:15	Discussion	
11:15-11:25	Operative Fixation in Fracture-Avulsion Type Mallet Finger Injuries: A New Technique	Fred Louw, Michael Solomons
11:25-11:35	Anatomic Repair of Chronic Bony Mallet Injuries	Adriaan Smit
11:35-11:40	Discussion	
11:40-11:50	A Retrospective Review of the Results and Surgical Management of Duplicated Thumbs "Pre-axial Polydactyly" treated at Red Cross Hospital (2003-2008)	Steve Carter
11:50-12:00	An Alternative Treatment of Rudimentary Ulnar Polydactyly: A Follow-Up Report	Michelle Maree, Michael Solomons
12:00-12:05	Discussion	
12:05-12:15	Innovations: The VacSplint for Hands	Nick Kairinos, Don Hudson
12:15-12:20	Discussion	
12:20-13:20	LUNCH	

Session Three

Chairmen: Prof Theo Le Roux & Dr Adriaan Smit

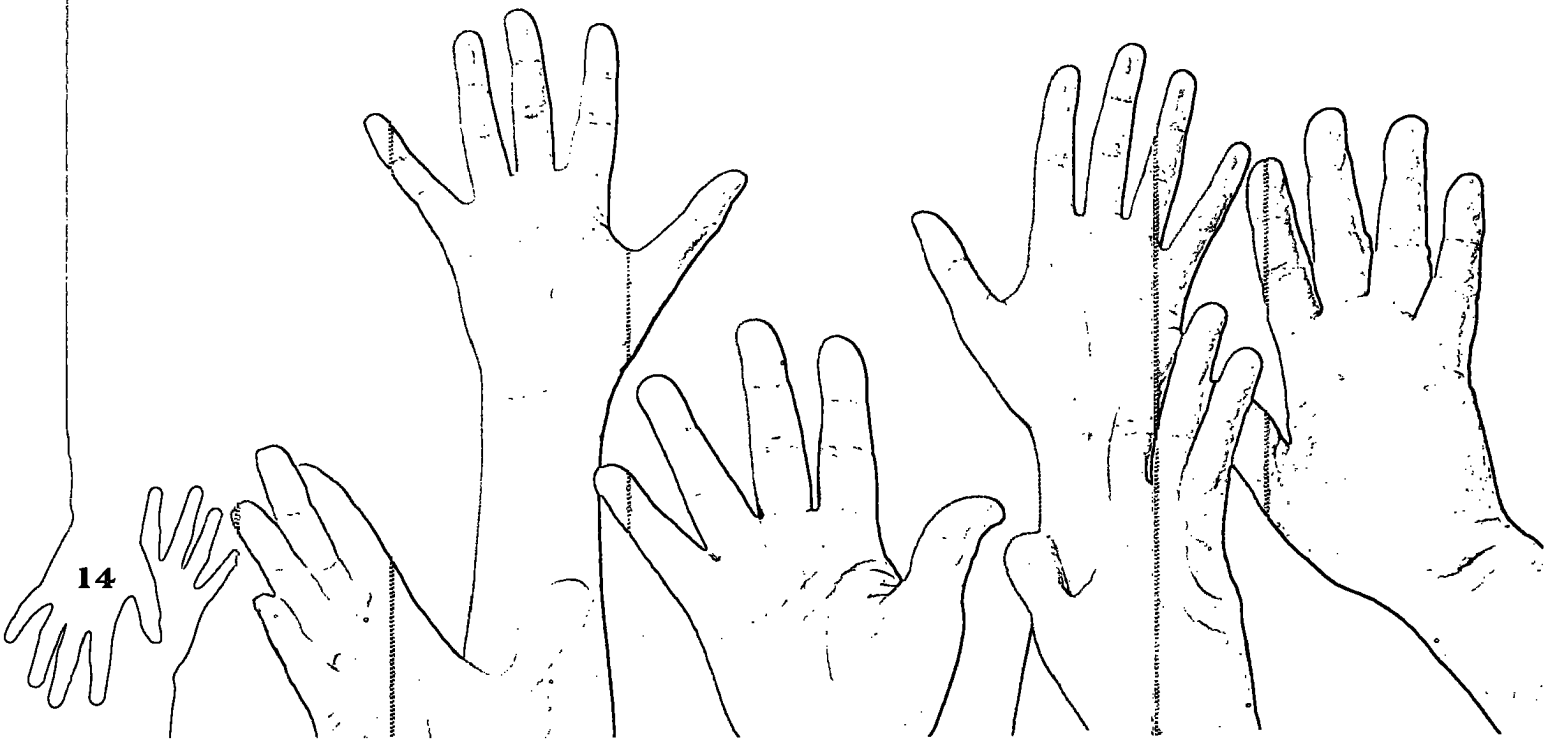
13:20-13:30	Replantation and Revascularization of the Hand and Digits: Results and Recommendations	Marshall Murdoch, Vengal Medapati
13:30-13:35	Discussion	
13:35-13:55	Pediatric Upper Limb Masses, Tumors and Vascular Malformations	Marybeth Ezaki
13:55-14:05	Discussion	
14:05-14:15	Longstanding Hand Ischaemia Treated Successfully with Pharmacomechanical Thrombolysis – 3 Case Reports	Jackie Muller, Michael Carides
14:15-14:20	Discussion	
14:20-14:30	The Vascular Anatomy of the Reverse Flow Posterior Interosseous Artery Island Flap Revisited	Marshall Murdoch, et al
14:30-14:40	The Posterior Interosseous Artery Flap Revisited	Walter Stuart, R Greeff
14:40-14:45	Discussion	
14:45-14:55	The Rule of Thumb	Lynne Pringle
14:55-15:00	Discussion	

15:00-15:10	Distal Biceps Tendon Repair with Biotenodesis Screw Fixation	Erich Mennen
15:10-15:15	Discussion	
15:15-15:45	TEA	

Session Four

Chairmen: Drs Mahendra Daya & Sean Pretorius

15:45-15:55	The Effects of Negative Pressure Wound Therapy on Tissue Pressure in Hands	Nick Kairinos, Michael Solomons, Don Hudson
15:55-16:05	Perfusion Beneath Circumferential NPWT in Hands	Nick Kairinos, et al
16:05-16:10	Discussion	
16:10-16:20	Peripheral Nerve Section for Pain other than the Upper Limb	Michael Solomons
16:20-16:30	The Role of Neurectomy in the Management of Arthritic Wrist Pain and Superficial Radial Nerve Irritation	Adriaan Smit
16:30-16:35	Discussion	
16:35-16:45	Rugby Related Brachial Plexus Injuries	Michelle Maree, Michael Solomons
16:45-16:50	Discussion	
16:50-17:00	Cubital Tunnel Syndrome – Simple Decompression vs Anterior Subcutaneous Transposition	Y Ramguthy, Michael Carides
17:00-17:05	Discussion	
17:15-18:00	ANNUAL GENERAL MEETING (Members only)	
19:30 for 20:00	SASSH DINNER: Ballroom, NH The Lord Charles Hotel Dress: Smart Casual	



Sunday 31 August 2008

08:00-08:25	Registration Venue: Conference Area

Session Five

Chairman: Dr Michael Solomons

08:30-08:50	Brachial Plexus Palsy – Overview and Early Treatment	Marybeth Ezaki
08:50-09:00	Discussion	
09:00-09:20	Dupuytren's Disease	Joe Dias
09:20-09:30	Discussion	
09:30-09:50	Brachial Plexus Palsy – Early, Delayed and Salvage Management of The Shoulder	Marybeth Ezaki
09:50-10:00	Discussion	
10:00-10:30	TEA	

Session Six

Chairman: Dr Johan Vd Westhuizen

10:30-10:50	Pollicisation: Decision making, Timing and Technical Points	Marybeth Ezaki
10:50-11:00	Discussion	
11:00-11:20	Wrist Problems	Joe Dias
11:20-11:30	Discussion	
11:30-12:15	AC Boonzaier Lecture: "So when DID we stop climbing in Trees? Current Debates on the Evolution of the Human Hand"	Alan Morris
12:15-13:30	LUNCH	

Session Seven

Chairmen: Prof Ulrich Mennen & Dr Steve Carter

13:30-13:50	Radial Dysplasia – A Review	Marybeth Ezaki
13:50-14:00	Discussion	
14:00-14:20	Scaphoid 2008	Joe Dias
14:20-14:30	Discussion	
14:30-14:50	Management of Soft Tissue Deficiencies in the Hand – Syndactyly, First Web Contractures, Clasped Thumbs etc	Marybeth Ezaki
14:50-15:00	Discussion	
15:00	Closure	Martin Wells, President

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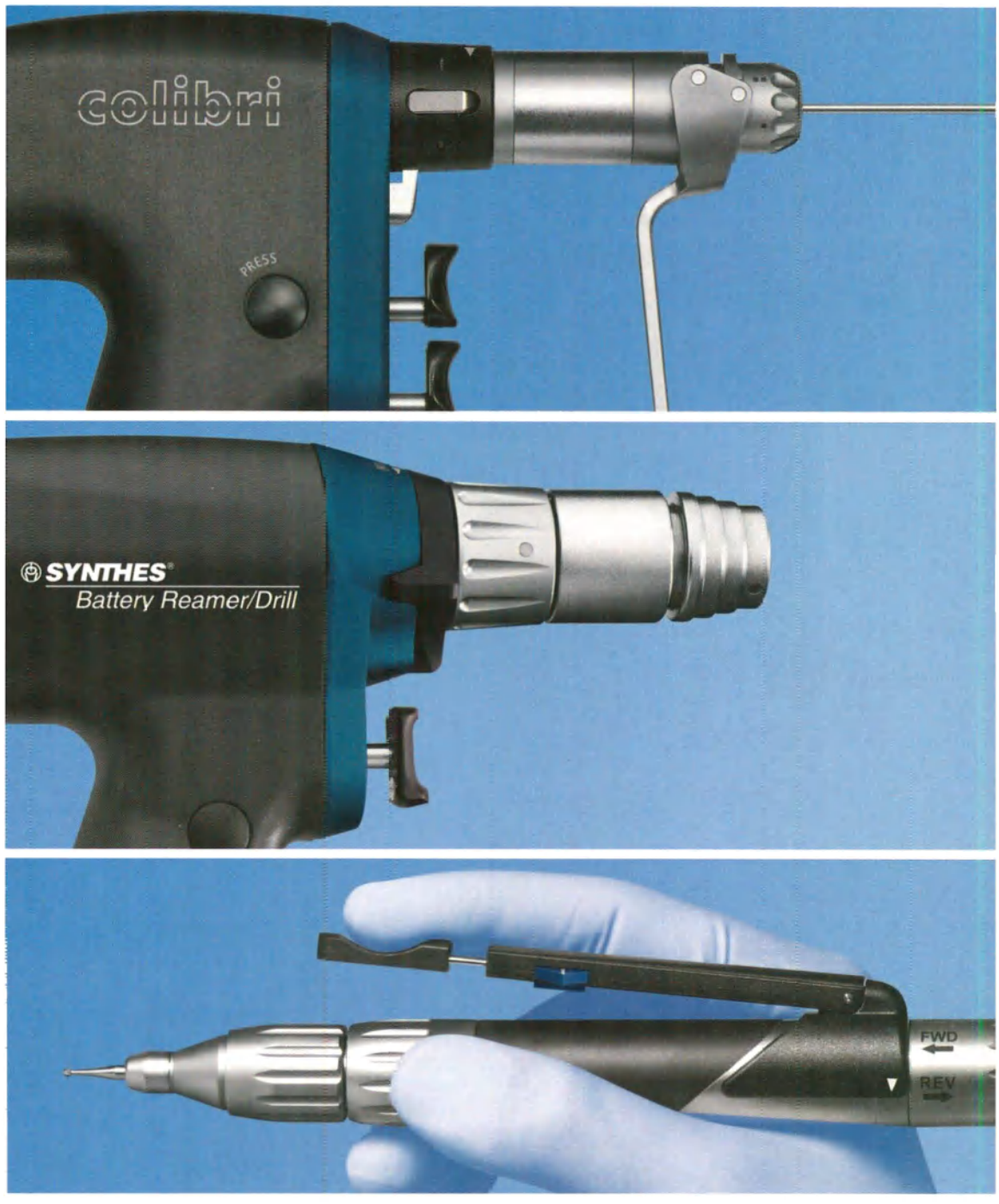

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Abstract List

(Alphabetical by presenting author indicated by *)

Barrow, Dr AD

(PO Box 902, Wendywood, Johannesburg 2144. Telephone 011-7172038; Email drandy@global.co.za)

Complications with Volar Radial Plating

Aims

The of this study is to analyze the outcome and complications associated with volar radial plates in patients with distal radial fractures
In this day and age radial plating has gained widespread acceptance and I temper enthusiasm with an in detailed look at complications associated with the procedure

Method

All complications recorded during the first 200 cases of a single surgeon are documented and analyzed in depth

Results

A surprisingly high complication rate is observed
Complications are loosely divided into major and minor

Conclusion

While volar radial plating has gained widespread acceptance in the world we should proceed with caution and attention to detail, technique and indications must be adhered to

Distal Radial Osteotomy from a Volar Approach

Aim

The aim of this study was to prospectively analyse the outcome and results obtained in performing distal radial osteotomies for radial mal-unions from a volar approach
By convention radial osteotomies have been done via a dorsal approach in most instances and this represents a quantum change in thinking.

Method

12 cases in which a distal radial osteotomy was performed from a volar approach are documented. In each case a locked volar plate was used for fixation.

Results

The correction obtained, range of movement, grip strength and time to union are looked at.

Conclusion

Distal radial osteotomy from a volar approach is a safe and dependable procedure which produces excellent results with a high degree of patient satisfaction.

Carter, Dr SL

(Suite 128, Vincent Pallotti Hospital, Pinelands 7460. Telephone 021-5313621; Email docsteve@absamail.co.za)

A Retrospective Review of the Results and Surgical Management of Duplicated Thumbs "Pre-axial Polydactyly" treated at Red Cross Hospital (2003-2008)

A retrospective review was done on the management of 40 cases of duplicated thumbs treated over a 5 year period. The thumbs were classified according to Wassel's classification. We reviewed our results looking at age, at surgery, type of procedure required, complications and outcomes

Dias, Prof JJ (Joe)

Consultant Orthopaedic Surgeon and Hand Surgeon, Dept of Orthopaedic Surgery, Glenfield Hospital, Groby Road, Leicseter LE3 9QP. Tel: 0116 256 3089; Fax: 0116 250 2676; Email joseph.dias@uhl-tr.nhs.uk

The surgical management of Dupuytren's disease

Dupuytren's disease is common in the UK and causes contracture of the metacarpophalangeal and interphalangeal joints of fingers due to the formation of nodules of fibroblasts and bands of fibrous tissue. Tension in the fascia is the probable trigger leading to cell proliferation with the threshold of tension probably genetically determined. The contracture causes disability by encroaching on the working space of the hand. Surgery aims to correct contracture but recurrence is feared and is said to be inevitable. The techniques used in surgical correction are discussed. Aftercare needs to be meticulous to deliver a functional outcome. We found that initial correction influenced recurrence as did the initial deformity. Firebreak skin graft, as recommended by Hueston, did not reduce recurrence in the medium term. Four patterns of behaviour after surgery are identified.

Managing the painful unstable wrist

Much has been written about the unstable wrist. However the decision making is relatively straightforward and the surgical options available are better understood. The clinician must know what will happen if nothing is done and what symptoms can be altered by surgery. The problem about reconstruction of the wrist is that apart from acute repair normality cannot be restored. It is difficult to confidently counsel patients about alternatives or to confidently deliver consistent outcomes. The decision making process is however reasonably straightforward. Using the scapholunate interval as an example, this talk will discuss the different options, technical issues and their outcomes. The same principles apply to other ligament injuries of the wrist.

Scaphoid fracture management in 2008

The scaphoid is the commonest carpal bone to fracture with a rate of around 80 in every million. Most acute bicortical fractures unite uneventfully but there is an increasing international trend to internally fix the scaphoid. We use an aggressive nonoperative approach in the mamagement of this fracture with a low threshold to internally fix at the first hint of failure of union. The percutaneous technique is discussed. Nonunion occurs in 10% of acute fractures with inevitable consequent osteoarthritis. The decision making in managing non-union is based on structural defect, vascularity and arthritis is presented. and salvage options after failed surgery explored.

Ezaki, Prof M

(Texas Scottish Rite Hospital for Children, 2222 Welborn St., Dallas, TX 75219 Office 214 559 7842; Fax 214 559 7769; Email marybeth.ezaki@tsrh.org)

Compartment syndromes and reconstructive approaches to ischaemic contracture

A review of the history of approaches to ischaemic contracture, a practical approach to dealing with the deficits following compartment syndrome, and a discussion of the unusual newborn variant

Cerebral Palsy and Upper Limb Spasticity

An overview of the etiology and classification of spasticity in cerebral palsy, and discussion of an approach for non-operative and operative care of a spastic limb during childhood

Pediatric Upper Limb Masses, Tumors and Vascular Malformations

A discussion about the evaluation of the child presenting with a mass in the upper limb, and the differential diagnosis of the common and not so common causes of these masses

Brachial Plexus Palsy, overview and early management

A general discussion about brachial plexus birth palsies, early evaluation, early decision making, management of the recovering limb, and general trends regarding this conditon

Brachial Plexus Palsy - Early, Delayed and Salvage Management of The Shoulder

Early dysplastic development of the shoulder is the basis of much of the late impairment related to brachial plexus palsy. Recognition of the clinical findings, imaging modalities and management strategies will be discussed

Pollicisation: Decision making, Timing and Technical Points

Reconstruction of the congenitally absent thumb is one of the finest procedures we can offer a child. Discussion will focus on how outcomes are related to selection criteria and attention to minute technical details

Radial Dysplasia: A review

A general overview lecture on radial dysplasia, with emphasis on the spectrum of involvement and associated conditions

Management of Soft Tissue Deficiencies in the Hand - Syndactyly, First Web Contractures, Clasped Thumbs etc

A potpourri of technical tips that can be applied to solving some of the tricky soft tissues coverage problems in the hand

Kairinos, Dr N*; *Hudson, Prof DA*

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Innovations: The VacSplint for Hands

Aims

A new technique of applying a negative pressure wound therapy (NPWT) dressing to hands is presented, which places the hand in a functional position on application of suction. Preliminary patient outcomes are presented.

Methods

The hand is placed between two foam dressings and the dressings are stapled together to the level of the proximal interphalangeal joints. The metacarpophalangeal (MCPJ) joints are then flexed into the desired position, resulting in the dorsal foam moving a few centimeters distally in relation to the volar foam. Stapling is then continued from the level of the MCPJ's. On application of suction using this technique, the dressing automatically assumes the functional position. The same principle can be utilized to achieve wrist extension. Eight patients underwent NPWT using this technique and there range of motion (ROM) was assessed at discharge.

Results

The children all had full ROM. Two of the adults' notes were missing. The other two had MCPJ ROM of 20-100° and 0-100° respectively at the time of discharge.

Conclusion

The "Vacsplint" technique allows for all the benefits of NPWT in hands without compromising on the important benefits of splinting. We propose this technique as the recommended method of applying NPWT to hands.

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The Effects of Negative Pressure Wound Therapy on Tissue Pressure in Hands

Aims

To determine the tissue pressures changes in relation to suction pressure in hands undergoing circumferential negative pressure wound therapy (NPWT). Tissue pressure changes over time are also assessed.

Methods

A tissue pressure transducer was used to determine tissue pressures in five hand wounds due to undergo circumferential NPWT. Tissue pressures were recorded for different suction pressures. Suction pressure was then set at -125 mmHg and tissue pressure was monitored hourly for 48 hours. Repeated measures of ANOVA and logistic regression analyses were used to analyse data.

Results

Tissue pressure increased significantly ($p<0.0005$) on application of suction. Over the 48 hour period there was a significant reduction of the (increased) tissue pressure for the group as a whole ($p=0.04$). Only one wound reached its pre-NPWT pressure levels and this occurred after 24 hours.

Conclusion

Circumferential NPWT increases tissue pressure. This is in proportion to the amount of suction applied. Although the increased tissue pressure may reduce over time, most cases still have higher tissue pressures after 48 hours than pre-NPWT levels.

These findings raise concern regarding the effect this may have on perfusion, particularly when hand vascularity is compromised.

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Perfusion Beneath Circumferential NPWT in Hands

Aims of the study

To determine the effect that circumferential negative pressure wound therapy (NPWT) has on perfusion in hands.

Methods

Ten volunteers were randomised to receive suction pressures of either -125 mmHg or -400 mmHg. After both hands were placed in a circumferential NPWT dressing, suction was only applied to one hand. Perfusion of both hands was then analysed simultaneously using radio-isotope perfusion imaging. A week later, an identical experiment was done on the same volunteers', this time using the contralateral hand as the test hand. A total of 20 scans were done. Data were analysed using repeated measures of ANOVA.

Results

In both pressure groups there was a highly significant ($p<0.0005$) mean reduction in perfusion (40% for -400 mmHg and 17% for -125 mmHg). The reduction in perfusion of the group undergoing NPWT at -400 mmHg was significantly greater than the group undergoing NPWT at -125 mmHg ($p<0.0005$).

Conclusion

Tissue perfusion beneath circumferential NPWT dressings is significantly reduced when suction is applied. This reduction is significantly greater in perfusion at suction pressures of -400 mmHg, compared to -125 mmHg. This implies that circumferential NPWT should be used with extreme caution, if at all, on tissues with compromised perfusion

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Operative Fixation in Fracture-Avulsion Type Mallet Finger Injuries: A New Technique

- The management of mallet finger injuries remains controversial.
- Nowhere more so is this present in Doyle type IV B,C and rotated fracture- avulsion type mallet finger injuries i.e :
- >20% joint surface involved
- rotated fragment
- persistant subluxation of DIPJ .
- Surgical fixation of the avulsed fragment is technically demanding and difficult. Numerous techniques have been described.
- Some authors maintain K-wire fixation of the avulsed fragment is best. This method unfortunately carries the risk of infection and moreover intra- articular infection.
- Other authors insist screw fixation is best. Here, however, there is the ever present risk of splitting the fragment.
- We have developed a safe and simple surgical technique for fixation of the avulsed fragment.
- We intend to present our surgical technique and interim results of this surgical fixation.

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Transthecal Flexor Sheath Block for Finger Surgery in a Resource Limited Setting

Background:

Anaesthesia of the finger is a common requirement, in both the Accident and Emergency unit and in Hand Surgery. The recently described transthecal digital block has been advocated as a technique equal to traditional ring block. It has a similar onset and duration of anaesthesia and a lower complication rate.

The purpose of this study is to

1) Describe the technique
2) Discuss our experience regarding the efficacy, indications and complications of the block and
3) To review the relevant literature

Methods

Prospective, survey study to review the efficacy of the transthecal digital block. All injections will be given by the authors and length of time to loss of pin prick sensation will be measured. Patients will asked to rate pain of injection using a numerical analog scale that will rate pain out of ten, with zero indicating no pain and ten the worst pain imaginable.

Results

A Total of 50 patients were evaluated and all blocks were successful according to both loss of pin prick sensation and patient report using the numerical analogue scale

Conclusion

The method proved to be as effective as traditional digital ring block with the advantage that it requires one injection, uses only a small amount of local anaesthetic and has almost no risk of direct trauma to neurovascular bundles. General indications for the transthecal digital block include lacerations, fingertip injuries, foreign bodies, nail bed injuries and fractures. We advocate that medical practitioners make use of this technique where indicated.

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An Alternative Treatment of Rudimentary Ulnar Polydactyly: A Follow-up Report

Introduction

Rudimentary ulna polydactyly is one of the most common hand anomalies. These are conventionally treated in the post-natal period by suture ligation, or formally excised under general anaesthesia at one year of age. We follow up on an alternative method, using liger clip ligation as an outpatient procedure, which was first proposed and presented at the SASSH congress in 2006.

Methods

We reviewed 114 patients over a 24-month period. Their average age was five months. There were 62 males and 52 females. There were 181 digits, of which 67 were bilateral. The liger clip was applied to the base of the digit, under local anaesthesia, as an outpatient procedure.

Results

At one-week follow-up, the stump had necrosed leaving no residual nubbin. No clips had fallen off prematurely. At three-month follow-up, no complications were noted.
On comparison to surgical excision, there was an eight-fold difference in total cost, including theatre time, staff and patient costs.

Conclusion

Liger clip ligation of extra digits is a better alternative to conventional treatment. It is more cost–effective, potential complications of anaesthesia and surgery are avoided, as well as knot slippage, residual nubbin, venous engorgement and sepsis of the stump, complications common with suture ligation.

Maree, Dr M*; *Solomons, Dr M*

Rugby Related Brachial Plexus Injuries

Introduction

Sport-related brachial plexus injuries are not common, except in American football, where athletes experience a temporary neuropraxia of the plexus ("Stinger syndrome").
There are no reports of permanent neurological injury following a rugby tackle.
We reviewed 3 cases of young male players who sustained permanent and catastrophic neurological injuries of the upper limb following a tackle during an amateur rugby match. Two sustained brachial plexus injuries, and one an axillary nerve avulsion.

Methods

Patient 1,a 17 year old and patient 2, a 20 year old, were injured during a school and prison match respectively. Both experienced immediate loss of function and dense palsies at the time of presentation. CT Myelogram confirmed root avulsions.
Patient 3, a 28-year-old male, felt immediate loss of function in his deltoid muscle following a tackle during a touch rugby game.
All injuries involved the dominant arm.

Results

Follow-up ranged from 9 - 36 months. Patient 1 had some spontaneous recovery after 4 months.
Patient 2 and 3 failed to recover after 1 year and required surgery. All have been left with devastating injuries of their dominant arm.

Conclusion

There are no reports of permanent brachial plexus injuries following a rugby tackle. The risk of all forms of injuries are highest at club and school level and training plays a crucial role in preventing these devastating injuries in these young men.

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Distal Biceps Tendon Repair with Biotenodesis Screw Fixation

A retrospective review of seven cases of distal biceps tendon rupture. Repair done through a single anterior approach with a biotenodesis screw.
Evaluation of difficulties encountered with the approach, protection of neurovascular structures and fixation of tendon to bone.
Specific protocol for post operative mobilization described.
Comparison with double incision and other repair techniques.

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Beware the Essex-Lopresti Injury!

A fall on the outstretched hand can cause many types of injuries, including a tear of the radio-ulnar interosseus ligament, resulting in proximal migration of the radius ending with a radial head fracture.
If these go unrecognized the ligament heals with an abnormal anatomy, which affects the congruency of the radius head–capitellum joint.
Replacing the radial head with a standard prosthesis will inevitably result in mal-alignment and instability.
The swivel head radial prosthesis "follows" the capitate when the elbow is flexed/extended and pronated/supinated. It's unique designed allows tilting as well as translation.

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So when DID we stop climbing in trees? Current debates on the evolution of the hand (AC Boonzaier Lecture)

It is all in the grip. Differences in the anatomy of the hand between living apes and humans suggest that the human grip is fundamentally different in its ability to perform precise manipulations. Humans are brachiators (swinging by the upper limb) but with adapted wrists and finger flexors that allow for distinct functional differences in comparison to apes. When did these adaptations occur? Our only direct source of information is from fragments of fossil hand bones. These rare fossils indicate that the beginnings of the anatomical transformation came with the arrival of the genus Homo, about 2 million years ago. Less direct evidence comes from the archaeological record of tools. Despite the presence of a broadly 'human' hand anatomy fairly early in the fossil record, structural changes in stone tools tell us that the ability to do fine manipulations came much later. We can only speculate about these changes, but it seems likely that biofeedback between tool-making behaviour and hand structure resulted in selection for fine control neuropathways.

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Longstanding Hand Ischaemia treated successfully with Pharmacomechanical Thrombolysis – 3 Case Reports

Aim

To assess whether non-surgical therapy in the form of pharmacomechanical thrombolysis can still be used successfully, in patients with longstanding ischaemia of the hand from spontaneous Radial Artery thrombosis.
3 Case reports of patients with ischaemia of the hand ranging from 2-4 weeks will be shown. There was spontaneous ischaemia of the thumb with or without Index finger ischaemia in all cases. In 2 of the cases CT angiogram were done showing a beaded radial artery from the mid forearm to wrist with no digital run off; in one and the other showed a cut off radial artery in the mid-scaphoid region. These 2 patients had pulse spray pharmacomechanical thrombolysis (PSPMT). Follow-up CT angiograms in both these patients showed successful and complete

thrombolysis, with clinical improvement. The third case was treated with aspirin and she also improved clinically. All 3 cases had complete recovery of the ischaemic digits.

Conclusion

Pharmacomechanical thrombolysis should be attempted prior to surgical bypass grafting, even with longstanding ischaemia.

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Replantation and Revascularization of the Hand and Digits: Results and Recommendations

Introduction

Revascularization and replantation are time, resource and skill intensive procedures. While many units have reported excellent results, serious questions regarding both resource allocation and ultimate functional results has generated controversy around this field.

Methods

A retrospective review of all major hand injuries requiring revascularization between July 2007 and the present was undertaken. Data from 12 cases undertaken included demographics, operative techniques and time, injury patterns and mechanisms as well as primary outcome data. Re-establishment of vascular inflow was taken as a successful primary outcome. Injury patterns were graded according to a classification described by Biemer.

Results

14 cases were referred to our unit. 12 of these were considered for repair. There were 3 replantations (total) and 9 subtotal amputations. 9 Cases were successfully revascularized at the initial procedure. 3 Cases (2 total and 1 subtotal) required early revision surgery – 1 case was successfully salvaged in its entirety (a replantation), 1 case underwent distal tip necrosis (a subtotal type I) and 1 case underwent complete necrosis (a replantation). K-wires were used in all cases that required fixation. Vein grafts were used in 2 cases and digital artery transfer was done in 1 case. The injury involved flexor zone II in 9 cases.

Conclusion

The experience of our unit over the last year has yielded encouraging results with regard to successful revascularization, particularly in the controversial region of flexor zone II. We believe that primary revascularization procedures should be actively pursued in all cases where such a procedure is technically feasible. Our challenges for the future include dogmatic attitudes to the validity of such procedures and the development of appropriate referral mechanisms from both our trauma centre and peripheral hospitals.

Murdoch, Dr M*; *Potgieter, Dr A; Doucas, Dr G; Wittstock, Dr C; Patel, Dr C; Christofides, Dr T*

The Vascular Anatomy of the Reverse Flow Posterior Interosseous Artery Island Flap Revisited

Introduction

The posterior interosseus artery (PIA) flap is an excellent choice for resurfacing defects of the hand and wrist as it incorporates thin, well vascularised tissue and minimal functional donor site morbidity – without sacrificing a significant vascular channel to the hand. These benefits

outweigh the technical difficulty in flap elevation. Previous work from our unit has identified a troublesome anatomical variation in the vascular anatomy, where the posterior interosseus nerve (PIN) branch to ECU crosses both superficial to the PIA and distal to its major cutaneous perforator. In this situation the perforator must be sacrificed or the nerve branch divided or the flap abandoned.

Methods

A prospective clinical study to examine the vascular anatomy at the time of flap elevation was undertaken since June 2007, with specific reference to the previously identified anatomical variation. Flap elevation proceeded as suggested by the previous study with elevation of the lateral proximal flap over ECU to identify the PIN and major cutaneous perforator from the PIA. Further flap elevation only continued if both the nerve branch to ECU and the major cutaneous perforator could be preserved.

Results

To date 7 PIA flaps have been raised. The flaps varied in size from 3 x 2 cm to 10 x 8 cm. In none of the present series of cases was the previously described variant identified. All flaps were further elevated in a proximal to distal direction. There was no incidence of flap loss in the current series.

Conclusion

Despite the absence of the anatomical variation in the present series, the cautious initial approach aimed at preservation of both vital structures in the proximal forearm may have a salutary effect on flap survival. We aim to continue using this approach to flap elevation to build a significant series of patients to further elucidate the incidence of this anatomical variation.

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Needle Aponeurotomy for Dupuytren's Contracture of the Hand

Dupuytren's contracture is a well known and difficult condition to manage. The commonest methods of surgical treatment currently are segmental aponeurectomy or partial fasciectomy. Both of these procedures have their complications and are associated with varying degrees of recurrence. French rheumatologists proposed needle fasciotomy in the 1970s and the term 'needle fasciotomy' or 'needle aponeurotomy' was coined by Badois in his 1987 article. Currently there is not much in the English literature about this technique. At our unit we have recently started to use this technique and we would like to discuss the technique and our early results and review the literature.

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The Rule of Thumb

Range of motion is measured using a goniometer, in flexion and extension planes.

When measuring the thumb, specifically functional range of motion, flexion and extension of CMC, MP and IP joints only, do not provide an outcome based reading when assessing function, and when some kind of norm is required.

The literature advocates that we should always measure the contralateral thumb, as every person is different. There is no standard for thumb range of motion, and room for error and lack of constancy.

My study addresses the need to be able to measure range of motion of the thumb as in function.

I designed a goniometer that measures thumb joint range of motion.
More than 500 subjects were measured and a standard/norm established.
A guideline regarding basic range required for many daily tasks and activities will be included.
When measuring thumb range of motion, my device addresses constancy, ability to replicate measurements, functional readings, guideline regarding range required for many basic functions, plus a standard and norm.

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Cubital Tunnel Syndrome – Simple Decompression vs Anterior Subcutaneous Transposition

Aims of study

The procedure of choice in the surgical treatment of cubital tunnel syndrome remains controversial. The aim of this study is to report the results of simple decompression and anterior subcutaneous transposition.

Method

Retrospective review using modified Bishop Score to assess outcome. A total of 102 procedures (91 patients, 11 bilateral) were performed with a minimum of 9 months follow-up post operaritive. All cases operated on by the senior author.

Results

In the simple decompression group (n-47, average age 45.9 years) the average Bishop Score was 11.3 (5-13) with average time to recovery 3.7 months (1-6). Good to excellent in 94% and fair in 6% .
In the anterior transposition group (n-55, average age 43.3 years) the average Bishop Score was 10.6 (5-13) with average time to recovery 4.2 months (1-6). Good to excellent in 93% and fair in 7% .
Complications included two subluxing nerves, one wound dehiscence and one post-operative haematoma

Conclusion

- The outcome is similar in both treatment groups.
- Poorer results and longer recovery in the transposition and elderly group.
- High percentage of patients will take up to 6 months or longer for symptoms to resolve. Younger patients tend to recover quicker.

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Open Repair of TFCC Tears with DRUJ Instability

Aims of Study

Acute, traumatic peripheral triangular fibrocartilaginous complex (TFCC) detachments and central degenerative TFCC tears are very different entities. The peripheral TFCC tear and resultant DRUJ instability remains a neglected, often missed condition from which patients do not spontaneously recover. The study aims to prove the relevance of early and late surgical repair of peripheral TFCC tears.

Method

The accurate diagnosis of this injury was assessed using a standardised clinical manoeuvre, which has previously been shown to be sensitive and specific. The outcome to surgical repair was assessed retrospectively. Important advantages of open as opposed to arthroscopic repair, the surgical technique and post-operative rehabilitation protocols are discussed.

Results and Conclusion

The accurate diagnosis of peripheral TFCC detachment is easily made in the out-patient setting using the described clinical manoeuvre. Both acute and chronic peripheral TFCC avulsions are presented. This shows a favourable outcome for surgical repair for acute injuries and chronically neglected cases. All peripheral TFCC tears should be considered for open repair, even years after the initial injury is sustained.

Anatomic Repair of Chronic Bony Mallet Injuries

Aims of Study

Chronic mallet deformity without arthritic change is often regarded as a salvage scenario necessitating DIP joint fusion. While the outcome of fusion may be good, female and adolescent patients especially are often unsettled by the news of proposed fusion for this condition. This study assesses late reconstruction of bony mallet injuries without arthritis, with preservation of joint movement.

Method

The surgical technique of debridement and open repair using Kirchner wires, with or without modified hand specific plates, and the post-operative protocol are discussed.

Results and Conclusion

While the small study group is statistically insignificant, patients show good outcome to late reconstruction of chronic bony mallet injuries, with preservation of DIP joint movement. Further studies are needed to compare DIP fusion with joint preserving surgical options in the management of chronic bony mallet injuries.

The Role of Neurectomy in the Management of Arthritic Wrist Pain and Superficial Radial Nerve Irritation

Aims of Study

Neurectomy is an established treatment option for pain relief in the arthritic wrist. Predicting which patients will benefit from this may be difficult. Neurectomy is also described for patients with painful superficial radial nerve irritation, but very little has been written on the subject.

Method

Patients with wrist arthritis considered for neurectomy were given both anterior and posterior interosseous long acting nerve blocks, followed by a two-hourly visual analogue pain score over a twenty four hour period. Those that showed a transient but drastic improvement in pain with gradual return of symptoms were considered appropriate candidates for combined anterior and posterior interosseous neurectomies.

Patients with superficial radial nerve irritation were offered isolated posterior interossoeus neurectomy, without prior assessment of response to nerve block, if conservative measures failed to solve their pain. This included patients with de Quervain's tenovaginitis with no improvement after cortisone injection of the first extensor compartment.

Results and Conclusion

While the small study group is not statistically significant, neurectomy for arthritic wrist pain and superficial radial nerve irritation may be a viable treatment option. Further studies are needed to define the role of neurectomy in superficial radial nerve irritation.

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Peripheral Nerve Section for Pain other than the Upper Limb

Painful neuromas can be severely debilitating and successful treatment is often rewarding. Hand surgeons have more experience in dealing with peripheral nerves than other surgeons. A series of cases will be presented with a relevant review of the anatomy.

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The Posterior Interosseous Artery Flap Revisited

The need for flap coverage of large skin defects of the hand and distal forearm is not an uncommon situation. The posterior interosseous artery flap is well designed for this purpose and does not involve many of the problems associated with the more commonly employed groin and radial forearm flaps.

We present our experience with a series of these flaps and have specifically challenged the accepted indications for its use. We have found it to be extremely versatile in the cover that it provides and although more technically challenging, a reliable procedure for many common situations encountered in severe hand injuries.

Although described more than twenty years ago, the benefits of this flap have not resulted in its everyday use. We seek to change this and to also present some practical points in performing the procedure and optimizing its success.

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Longterm Results of Pyrocarbon PIP Implants

Aim

To review the outcomes of pyrocarbon implants for the PIP joint, using an early active motion protocol in terms of mobility, pain relief, patient satisfaction and function.

Background

Immediate outcomes after pyrocarbon implants have been excellent and most patients have been very satisfied with the outcome. Lately we have been cautioned that hyperextension deformities of the PIP joints are developing in many patients. As this has not been our experience, it was decided to conduct a retrospective survey of all patients who have received these implants during the last 5 years, so that we could determine how successful the surgery is over a longer term.

Method

A retrospective survey was conducted on all patients who received pyrocarbon implants over the past 5 years. The surgery was performed by one surgeon using the dorsal approach. Post operative therapy made use of a short arc motion programme during the day and full extension splinting at night. Unfortunately very few pre-operative measurements were available.

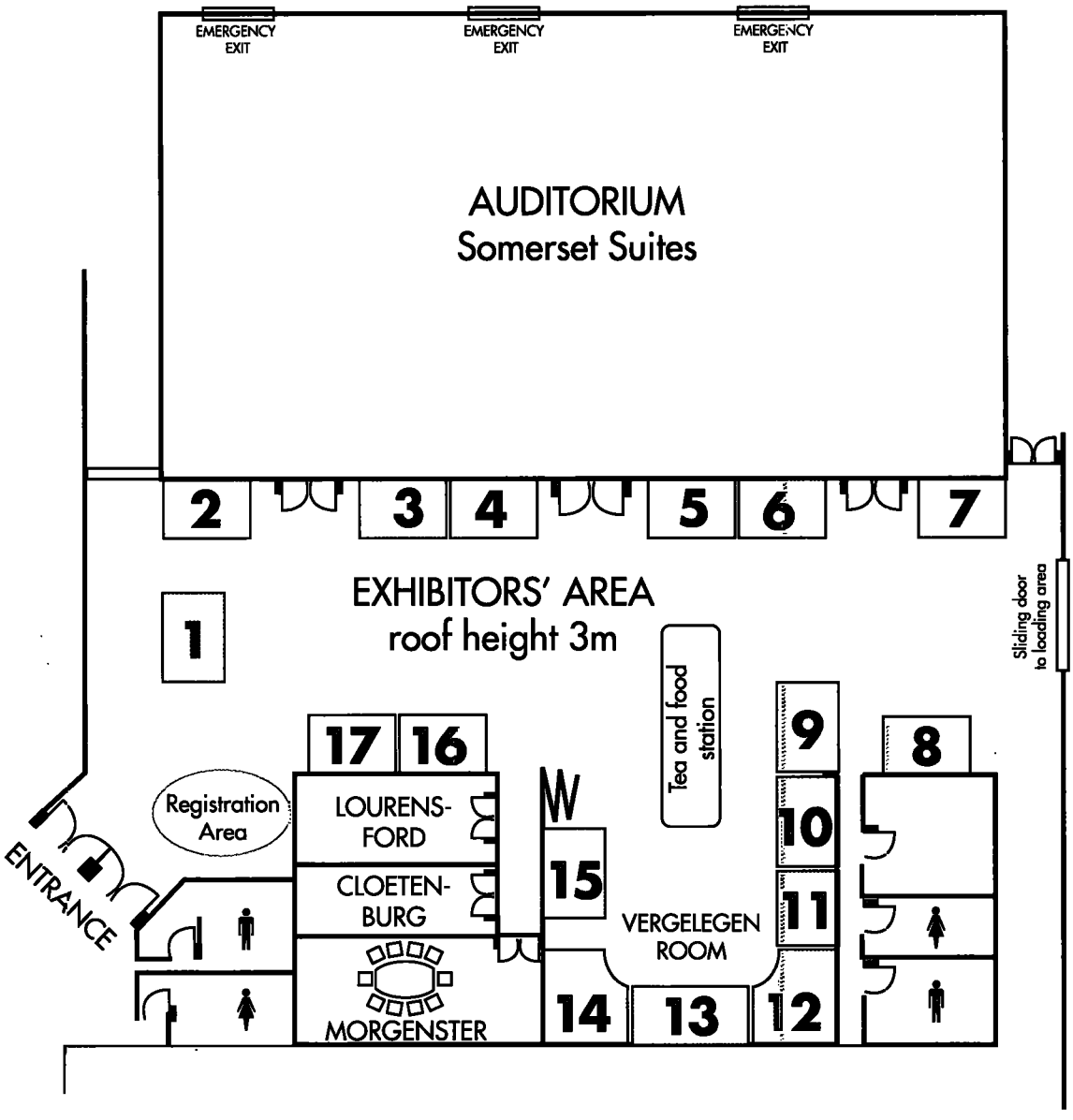
Patients were contacted telephonically and asked to participate in the study by completing a patient satisfaction form (which includes a pain rating) and faxing this back to us. Patients were asked to return to the hand therapy practice at their own convenience so that active joint range of motion could be measured.

Results

Preliminary results show that overall joint range of motion has significantly decreased compared to the final measurements obtained upon discharge. However, most patients are satisfied with the outcomes, since their pain has decreased.

Some patients have had to undergo revision surgery due to complications. The final results of this survey will be presented.

Exhibitor Floor Plan



1. PB Mayer Medical Books & Journals
2. Bone SA
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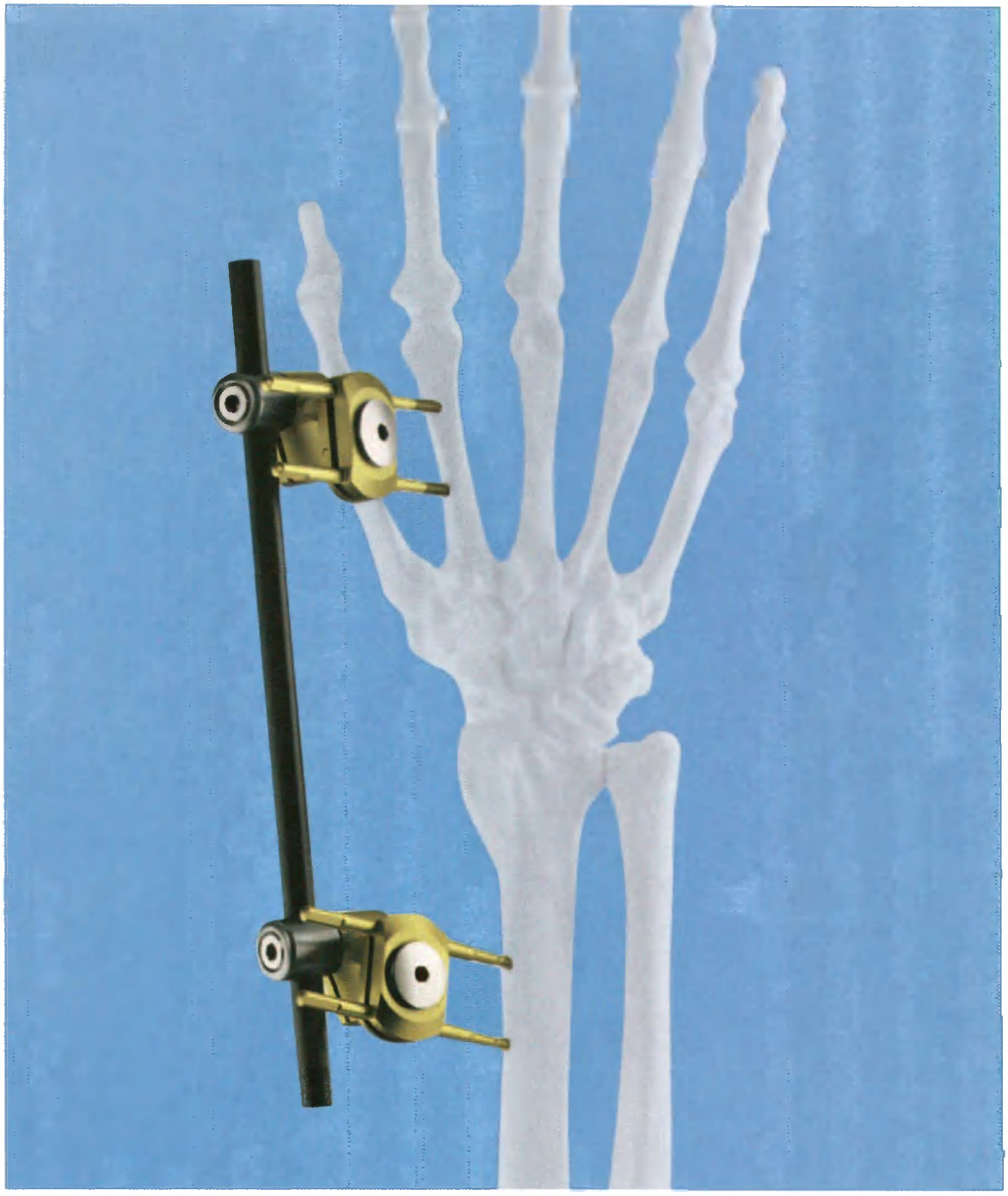
10. Stryker
11. DePuy Mitek
12. Smith + Nephew
13. Werkomed
14. Affordable Medical
15. Marcus Medical
16. Stratmed
17. Stratmed

Notes

Notes

Distal Radius Fixator.

- Self-drilling schanz screws
- MRI safe clamps



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