The South African Society for Surgery of The Hand

42nd CONGRESS

BAOBAB CONFERENCE CENTRE
SUN CITY HOTEL, SUN CITY

2 – 4 SEPTEMBER 2011

Congress Program

Dedicated to health.

Synthes is a leading global medical device company, employing nearly 11,000 people whose mission is to improve patient care around the world. We offer high quality, constant innovation and consistent customer orientation. Our goal is to provide the safest and most advanced implants, instruments and technologies that ensure reliable operating procedures, rapid recovery and a pain-free life after surgery. For many years we have successfully been following our three-pillar strategy based on continuous research and innovation, our highly trained Sales Force, and the Education of surgeons and operating room personnel.

24-HOUR EMERGENCY NUMBERS
Johannesburg (Head office): 082 560 1946
Cape Town: 083 266 6357
Durban: 082 893 7774
Bloemfontein: 083 255 5836
Port Elizabeth: 083 255 5826
East London: 083 260 0617

www.synthes.com

SYNTHES®

Original Instruments and Implants of the Association for the Study of Internal Fixation – AO/ASIF

Contents

Message from the organisers

Welcome to all delegates.

It has been a long time since we last visited Sun City with our congress. We all know this resort as a place of fun and laughter. To this congenial environment we invite you to mix academic pursuit with pleasure.

Our invited guest this year is Professor Scott Wolfe from Hospital for Special Surgery in New York. Scott is the current editor of Greens Operative Hand Surgery – the iconic Textbook of Hand Surgery. We extend our sincerest gratitude to Scott for agreeing to address our meeting and we look forward to his many presentations. Over and above Scott's extensive opus we have a large number of delegate free papers of interest.

Dr Ole Reigstad has also gladly agreed to travel from Norway to share his extensive experience on Total Wrist Arthroplasty.

We urge you to listen and interact. There is, as always, plenty of time for discussion. If you do not understand – ask, if you do not agree – challenge.

Enjoy the meeting.

MICHAEL SOLOMONS, PRESIDENT

MARTIN WELLS

International Visitors

SCOTT WOLFE

Scott Wolfe

Scott is currently the Professor of Orthopedic Surgery at Weill-Cornell College, New York. He is also the Faculty Director of Orthopedics at Hospital for Special Surgery where he also serves as Director of the HSS Center for Brachial Plexus and Complex Nerve Injury . His CV reads like a book with nearly 100 peer reviewed publications, 42 book chapters, and 43 guest lectureships. He has delivered countless presentations at American and International meetings and is involved in numerous research projects and grafts. To all of us he is well known as the current editor emeritus of Green's Operative Hand Surgery – the iconic textbook of our field.

We extend an extremely warm South African welcome to both our guests.


OLE REIGSTAD

Ole Reigstad

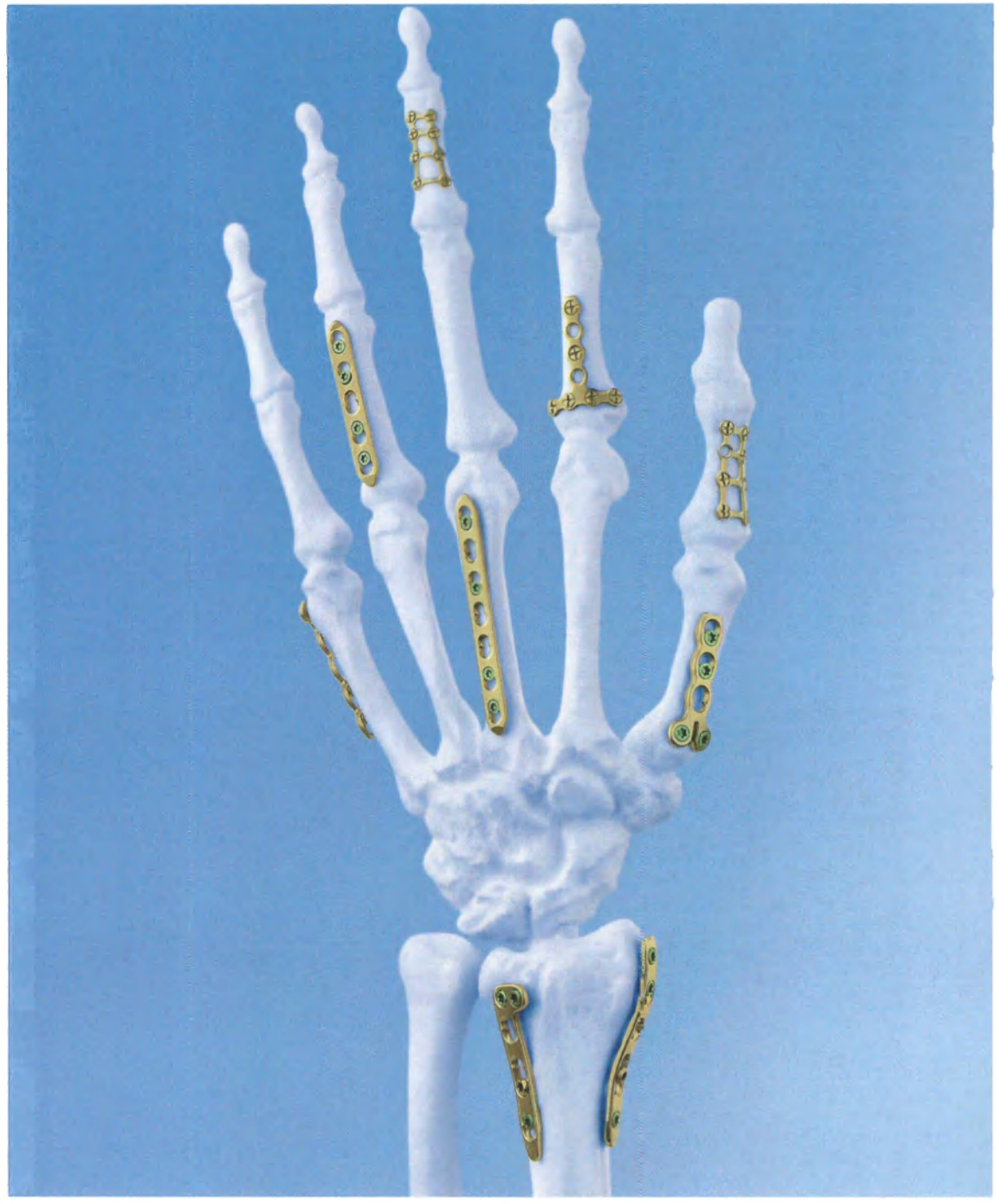
Dr Ole Reigstad is a Hand and Microvascular Surgeon working in the Orthopaedic Department at RiksHospital in Oslo Norway.

He is the author of numerous publications in the Hand and Orthopaedic literature as well as having presented extensively in Europe at the FESSH meeting as well as at the Norwegian Hand Society meetings.

His main interest is in Wrist Arthroplasty, Osseointegration and Scaphoid Non-union.

LCP Compact Hand and LCP Distal Radius System 2.4.

- Anatomically precontoured plates
- LCP combi-holes
- Angular stability



SYNTHES®

Original Instruments and Implants of the Association for the Study of Internal Fixation – AO/ASIF

24-HOUR EMERGENCY NUMBERS
Johannesburg (Head office): 082 560 1946
Cape Town: 083 266 6357
Durban: 082 893 7774
Bloemfontein: 083 255 5836
Port Elizabeth: 083 255 5826
East London: 083 260 0617

www.synthes.com

General Announcements/ Congress Information

CPD Register

- Discovery Health will handle the CPD formalities on a daily basis
- Scanning will be done twice daily
- Approximately 7-10 days post-congress you will receive notification to download your certificate from the website www.mycpd.co.za. You need to have your log-in and password details available 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
- Please note that 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. The technicians will be available in the congress venue to receive your material

Information/Registration Desk

The Information/Registration Desk will be situated in the Foyer

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

The Trade Exhibitor will be situated in the area immediately next to the Auditorium.
Kindly make every effort to visit all the stands
Teas and lunches will be served in the trade exhibition area

2011 Congress Organizing Committee

Congress Organisers	Michael Solomons & Martin Wells
Congress Coordinator	Hendrika van der Merwe

Social Events

Welcome Function 1800	Friday 2 September 2011 Venue: Baobab Conference Area, Ground Floor, Sun City Hotel Dress: Casual
Congress Dinner 1930 for 20:00	Saturday 3 September 2011 Hall of Treasures, Entertainment Centre Dress: Smart Casual

Future Events

Annual Refresher Course

2012	24 February	AO Hand Symposium/Workshop
	25-26 February	SASSH Refresher Course: Trauma and Sport Related Upper Limb Injuries
	Venue	CSIR, Pretoria
		(See page 7)

Annual Congress

2012	43rd Congress and Instructional Course	
	Date	31 August – 2 September
	Venue	Durban

The South African Society for Surgery of the Hand
Die Suid-Afrikaanse Vereniging vir Handchirurgie

✉ 2721 Bellville South Africa 7535 ☎ 021 910 3322 🖷 0866 720426
web: www.sassh.co.za **email:** sassh@iafrica.com

SAMA (Incorporated Association not for gain) (Reg. No. 05/00136/08)

SASSH REFRESHER COURSE 2012

date 24 february 2012 – AO Hand Workshop
date 25-26 february 2012 – Refresher Course

venue csir conference centre, pretoria
topic trauma and sport related upper limb injuries

There are 2 reasons why you should attend the annual SASSH Refresher Course in February 2012 to be held at the CSIR, Pretoria.

Firstly, is the presence of **DR MELVIN ROSENWASSER** from New York. He is a world renowned Trauma Hand Surgeon specialising in the Arthroscopic treatment of various Sports and Trauma related hand injuries.

and

Secondly, but equally important is **DR RENATO FRICKER** from Switzerland. He is the Head of the Hand- and Peripheral Nerve Surgery Unit at the Kantonsspital Bruderholz, Switzerland. Renato Fricker is a member of AO Trauma. He is also a co-author of the Hand–AO Surgery Reference Porta – www.aofoundation.org He has assisted in the presentation of AO videos for Hand Surgery.

He will present an AO workshop on Friday 24 February

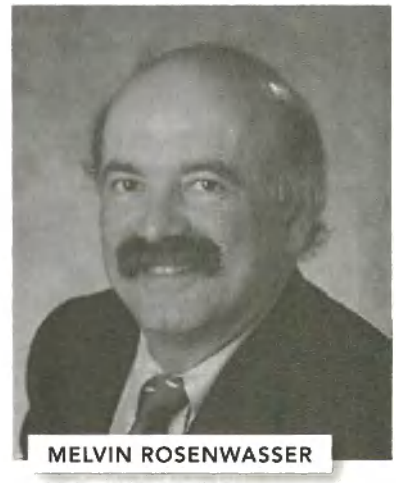
Both international speakers promise to provide us with excellent lectures on the Modern Treatment of Traumatic Conditions of the Hand.

The Course will most certainly benefit surgeons and therapists who tend to hand patients on a regular or occasional basis.

Diarise these dates and seriously consider attending this event early in 2012.

Please check the website of SASSH – www.sassh.co.za – for further information or contact Hendrika van der Merwe, Course Coordinator at the above contact details for updated news.

ERICH MENNEN AND NIKKI VAN DER WALT
COURSE ORGANISERS


MELVIN ROSENWASSER


RENATO FRICKER

Synthes Clavicle Solutions.
All in one set.

- Clavicle Hook Plate
- LCP Superior Anterior Clavicle Plate with lateral extension
- LCP Superior Anterior Shaft Plate

SYNTHES®

Original Instruments and Implants of the Association for the Study of Internal Fixation – AO/ASIF

24-HOUR EMERGENCY NUMBERS
Johannesburg (Head office): 082 560 1946
Cape Town: 083 266 6357
Durban: 082 893 7774
Bloemfontein: 083 255 5836
Port Elizabeth: 083 255 5826
East London: 083 260 0617

www.synthes.com

Office Bearers

President	Michael Solomons
President-Elect	Johan van der Westhuizen
Honorary Secretary/Treasurer	Martin Wells
Members	Michael Carides Theo le Roux Roger Nicholson
Executive Secretary/Congress Coordinator	Hendrika van der Merwe
Office	2721, Bellville SA 7535 021 9103322 0866 720 426 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
2007-2009	MC Wells

AC Boonzaier Memorial Lectures

1997	PROF ULRICH MENNEN "In 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"
2008	PROF ALAN MORRIS "So when DID we stop climbing in trees? Current debates on the evolution of the hand"
2009	DR MARTIN WELLS "Standing on the Shoulders of Giants"
2010	DR MICHAEL HAUSMAN "The Analog Digit"

Annual General Meeting

Saturday 3 September 2011 16:45 – 17:30
Baobab Conference Centre, Sun City Hotel, Sun City
(Members only / Slegs Lede)

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 Executive Committee Members
Aankondiging van Uitvoerende Bestuurslede

9

Membership
Lidmaatskap

10

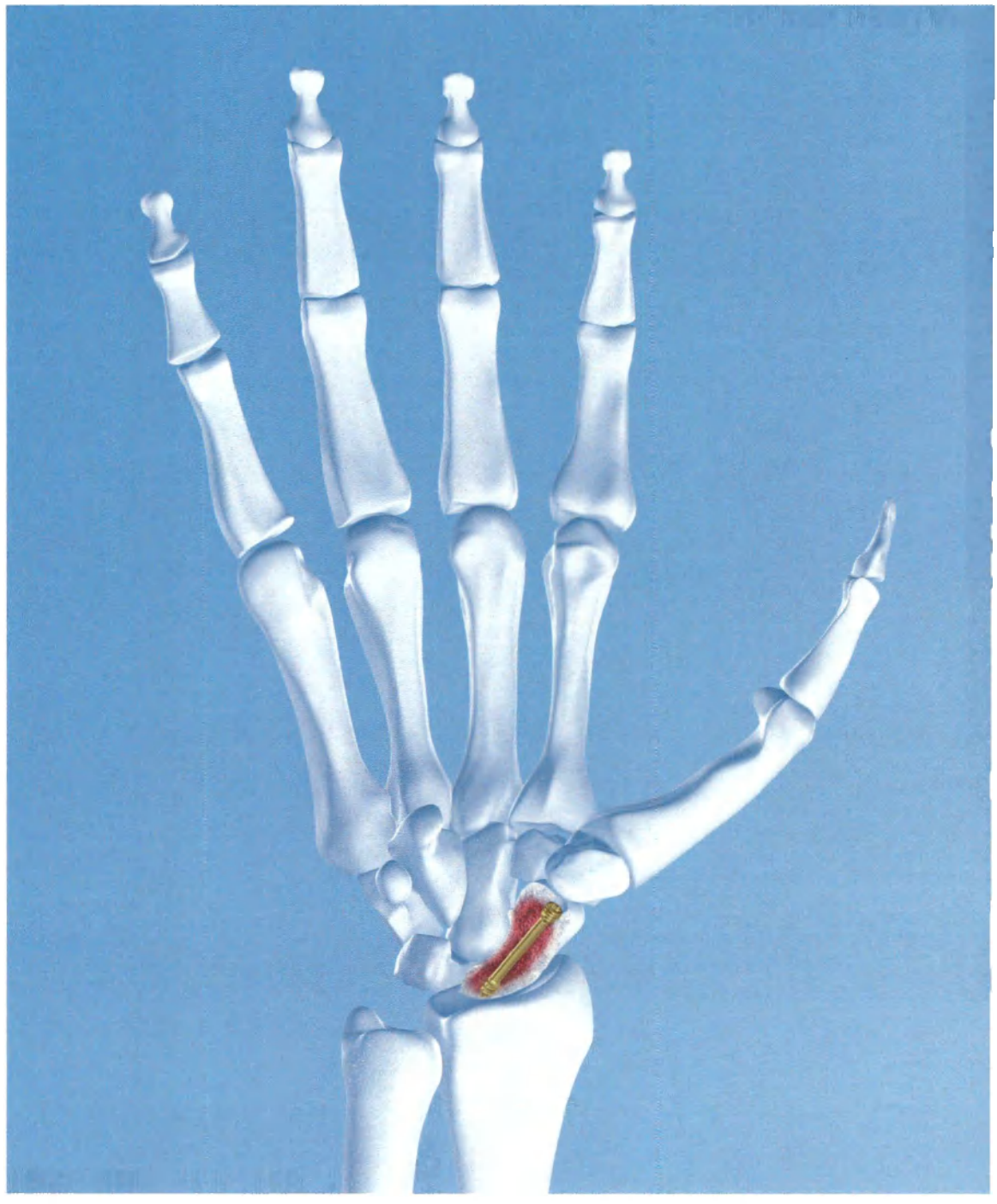
General
Algemeen

11

Next Annual General Meeting
Volgende Algemene Jaarvergadering

3.0 HCS. The countersinkable compression screw.

- Superior instrumentation
- Controlled compression
- Self drilling/self tapping
- Optimal retention in cancellous bone



SYNTHES®

Original Instruments and Implants of the Association for the Study of Internal Fixation – AO/ASIF

24-HOUR EMERGENCY NUMBERS
Johannesburg (Head office): 082 560 1946
Cape Town: 083 266 6357
Durban: 082 893 7774
Bloemfontein: 083 255 5836
Port Elizabeth: 083 255 5826
East London: 083 260 0617

www.synthes.com

Scientific Program

42nd ANNUAL CONGRESS AND INSTRUCTIONAL COURSE
2 – 4 SEPTEMBER 2011
BAOBAB CONFERENCE CENTRE GROUND FLOOR,
SUN CITY HOTEL SUN CITY

Friday 2 September 2011

1430-1500	Delegate Registration Venue: Baobab Conference Centre, Ground Floor, Sun City Hotel

Chair: Dr Martin Wells

1500-1800	Workshops and Instructional Course Venue: Baobab Conference Centre, Ground Floor, Sun City Hotel 1. **Ole Reigstad** demonstrating Motec Wrist Replacement Operative Procedure 2. **Scott Wolfe** demonstrating Trimed Fragment-specific Approaches to the Wrist and forearm How to reach the different Shear Fragments of Distal Radius 3. **Scott Wolfe** demonstrating the Flexor Tendon Approach and Repair of Flexor Tendon
1800	**WELCOME FUNCTION** **Venue: Baobab Conference Centre, Ground Floor, Sun City Hotel**

Saturday 3 September 2011

0715-0750	Delegate Registration Venue: Baobab Conference Centre, Ground Floor, Sun City Hotel

Session One Chair: Dr Michael Solomons

0750-0800	Opening/Welcome Announcements	*Michael Solomons*
0800-0830	Distal Radius Fractures: What Cannot be Fixed by Volar Plate?	*Scott Wolfe*
0830-0840	Discussion	
0840-0850	The Windblown Hand: A Retrospective Review of the Result of Surgical Treatment at Red Cross War Memorial Children's Hospital	*Steve Carter*
0850-0855	Discussion	

	0855-0905	Using a Mini Tight-Rope to Suspend the Thumb After a Trapeziectomy: Is this a Viable Option?	*Cameron Anley, M Wells A Ikram, S Pretorius*
	0905-0910	Discussion	
	0910-0920	Ulnar Collateral Ligament Reconstruction of the Thumb using Palmaris Longus Autograft fixed with Bio-absorbable Interference Screws	*Mark Fleming, M Solomons, M Singer*
	0920-0925	Discussion	
	0925-0935	Intramedullary Locked Fixation of Clavicle Shaft Fractures – Review of Early Results	*P (Reggie) King, A Ikram*
	0935-0940	Discussion	
	0940-0955	Epidemiology of Scaphoid Non-Union: Who is likely to Develop Non-Union and How can We Prevent it?	*Ole Reigstad*
	0955-1000	Discussion	
	1000-1030	**TEA**	

Session Two — Chair: Dr Michael Carides

	1030-1055	The Motec Wrist Replacement Arthroplasty Experience; How Well Have the Subpopulations of Osteoarthritic SNAC and SLAC wrists done?	*Ole Reigstad*
	1055-1105	Discussion	
	1105-1115	Severity of Upper Limb Panga Injuries and Infection Rates in Early versus Late Repairs	*C Price, N Howard, W Holmes, M Solomons, P Rollinson*
	1115-1120	Discussion	
	1120-1130	A Comparative Study to Determine the Effect of Dynamic Splinting versus Static Splinting of the Hand in the Post-operative Treatment of Zone V – VII Extensor Tendon Injuries in Patients attending Steve Biko Academic Hospital	*Evanthia Pavli*
	1130-1135	Discussion	
	1135-1145	Landsmeers Ligament – Take Two	*Mike Solomons, B Dando*
	1145-1150	Discussion	
	1150-1200	The Use of Elastic Taping in the Conservative Management of Mallet Finger Injuries	*Dershnee Devan*
	1200-1205	Discussion	
	1205-1225	From Bench to Dartboard: The Evolution of Total Wrist Arthroplasty	*Scott Wolfe*
	1225-1230	Discussion	
	1230-1330	**LUNCH**	

Session Three Chair: Prof Ulrich Mennen

1330-1340	Investigating the Volar Single Incision Approach to the Anticubital Fossa	*Ivor Petersen, S Pretorius*
1340-1345	Discussion	
1345-1355	Evaluation of Minimally Invasive Carpal Tunnel Decompression using the Knifelight®	*Abdul Rawoot, A Ikram*
1355-1400	Discussion	
1400-1410	The Outcome of Post-Surgical Recurrent Carpal Tunnel SyndromeTreated with an Extended Release and a Synovial Flap	*Adriaan Botha, A Ikram*
1410-1415	Discussion	
1415-1425	Comparing Tendon Transfers to Increase External Rotation in Obstetric Brachial Plexus Injury	*Mike Solomons, S Roche, M Maree*
1425-1430	Discussion	
1430-1450	Nerve Transfers: Advances, Evidence and Expectations. When do We Apply this exciting Technique?	*Scott Wolfe*
1450-1500	Discussion	
1500-1530	**TEA**	

Session Four Chair: Drs Ajmal Ikram/Nikki vd Walt

1530-1540	An Assessment of a Two Layer Subcuticular Closure using Poly-Glecapone 25 (Monocryl) Sutures in Hand Surgery	*Marshall Murdoch*
1540-1545	Discussion	
1545-1555	Bilateral Post Burn Contracture of the Hands Which Complicated into Marjolin Ulcers - Squamous Cell Carcinoma	*Thabo Makobela, S Golele*
1555-1600	Discussion	
1600-1610	Case Study – Metacarpophalangeal Arthroplasty Using the Ascension® MCP System in Ankylosis Following Sepsis	*Christopher Price, M Solomons*
1610-1615	Discussion	
1615-1630	The Volar Approach to the SRS PIP Arthroplasty – A Case series in Golfers	*Scott Wolfe*
1630-1635	Discussion	
1645-1730	Annual General Meeting: Members only Venue: Baobab Conference Centre, Ground Floor, Sun City Hotel	
1930 for 2000	**SASSH DINNER:** **Hall of Treasures in the Entertainment Area** **Dress: Smart Casual**	

Sunday 4 September 2011

0730-0750	Delegate Registration	
Session Five	**Chair: Dr Roger Nicholson**	
0800-0825	Comparison of Nerve Transfers and Nerve Grafting for Upper Plexus Palsy	*Scott Wolfe*
0825-0835	Discussion	
0835-0845	Selected Good Results in Brachial Plexus Surgery	*Michael Solomons*
0845-0850	Discussion	
0850-0910	Avoiding Non-union: The Case for Percutaneous Scaphoid Fixation	*Scott Wolfe*
0910-0920	Discussion	
0920-0930	The Liebenberg Syndrome	*Ulrich Mennen*
0930-0935	Discussion	
0935-0955	Ulnar-sided Wrist Pathology: An Algorithmic Approach to TFCC, Chronic Radio-Ulnar Instability	*Scott Wolfe*
0955-1005	Discussion	
1005-1025	Mid Carpal Instability: Making sense of (CIND)	*Scott Wolfe*
1025-1030	Discussion	
1030-1130	**TEA**	
Session Six	**Chair: Dr Johan Vd Westhuizen**	
1130-1150	Scapholunate Ligament Injury: A Case-based Approach to Treatment	*Scott Wolfe*
1150-1200	Discussion	
1200-1210	Connection between A2 Pulley and Oblique Retinacular Ligament: Anatomical Dissection	*Erich Mennen*
1210-1215	Discussion	
1215-1245	Flexor Tendon Repair: What have we Learned? (Includes Cruciate Surgical Technique Video)	*Scott Wolfe*
1245-1255	Discussion	
1255-1345	AC Boonzaier Lecture: Hand Surgery - Where do we come from?	*Mike Solomons*
1400	**CLOSURE BY PRESIDENT**	*Johan vd Westhuizen*

Wrist Fusion.

- Three plate options
- Reduced profile with tapered ends minimises plate prominence
- Built-in fusion angle of 10° dorsiflexion provides optimum hand position

SYNTHES®

Original Instruments and Implants of the Association for the Study of Internal Fixation – AO/ASIF

24-HOUR EMERGENCY NUMBERS
Johannesburg (Head office): 082 560 1946
Cape Town: 083 266 6357
Durban: 082 893 7774
Bloemfontein: 083 255 5836
Port Elizabeth: 083 255 5826
East London: 083 260 0617

www.synthes.com

Abstracts

(Listed according to Scientific Program)

Title: DISTAL RADIUS FRACTURES: WHAT CANNOT BE FIXED BY VOLAR PLATE?

Author: SCOTT WOLFE

Office Address: 523 East 72nd Street, New York, NY 10021
Telephone: 212-606-1529
Email: wolfes@hss.edu

Title: THE WINDBLOWN HAND: A RETROSPECTIVE REVIEW OF THE RESULT OF SURGICAL TREATMENT AT RED CROSS WAR MEMORIAL CHILDREN'S HOSPITAL

Author: STEVE CARTER DEPT. OF PAEDIATRIC SURGERY RED CROSS HOSPITAL

3rd Floor, New Orthopaedic Unit, Vincent Pallotti Hospital, Alexandra Road, Pinelands 7405
Telephone: (021) 506 5674 Fax: (021) 506 5671
Email: docsteve@absamail.co.za

The Wirdblown Hand as originally described by Wood and Biondi is characterised by elements:

- Flexion and adduction contractive of the thumb
- Narrowing of the first webspace and
- Ulnar deviation of the fingers at the metacarpophalangeal joint

This is a retrospective review of cases treated at Red Cross War Memorial Children's Hospital between 2005 and 2010. A total of 7 cases were reviewed.

Traditional surgery has been aimed at dealing with the thumb flexion and adduction contracture and narrowed webspace either by a local or flap Z plasty or transposition flap.

Our hypothesis is that the thumb deformity is primarily the result of absent or weak thumb extensors, particularly Extensor Pollicis Brevis and instability at the metacarpophalangeal joint.

In our series we employed the use of a chondrodesis of the metacarpophalangeal joint of the thumb after the webspace release and augmented this with an EIP-EPB transfer to improve thumb extension.

Secondly we looked at the use of crossed intrinsic transfers in improving ulnar deviation at the metacarpophalangeal joints of the fingers.

Our results indicate improved first webspace in all 7 cases, stability of the metacarpophalangeal joint in 5 of 7 cases and improved extension in all cases.

The crossed intrinsic transfer gives improved balance and ulnar deviation of the fingers.

Title: USING A MINI TIGHT-ROPE TO SUSPEND THE THUMB AFTER A TRAPEZIECTOMY: IS THIS A VIABLE OPTION?

Author(s): CAMERON ANLEY, M WELLS, A IKRAM, S PRETORIUS

3A Kleinschmidt Close, Paarl 7646
Telephone: 0837804332
Email: anley@cybersmart.co.za

Aims of study:
The carpometacarpal joint of the thumb is a common site of osteoarthritis. This leads to pain and instability, which significantly influences the activities of daily living. Initial treatment involves conservative measures but if these fail surgery should be considered. Currently the gold standard remains trapeziectomy with or without tendon suspension interposition. Other options include osteotomy of the thumb metacarpal, arthrodesis, hemiarthroplasty and total arthroplasty. Recently the use of a mini tight-rope has been suggested to suspend the thumb metacarpal replacing the need for the tendon suspension interposition.

Method:
Patients with CMC arthritis requiring surgery were enrolled for this study. The surgical technique included an open trapeziectomy with suspension of the thumb metacarpal via a mini-tightrope. Patients were immobilised for three weeks after which range of motion exercises were encouraged.

Results:
Thirteen patients were included in this study. The average age was 58.3 years and all patients were female. The dominant hand was operated in 7/13 patients. The patients are being followed up and six month results will be presented at the congress.

Conclusion:
Due to the improved strength of the suspension, the use of the mini tight-rope to suspend the thumb metacarpal following a trapeziectomy allows for early mobilisation of the joint. Initial results are promising.

Title: ULNAR COLLATERAL LIGAMENT RECONSTRUCTION OF THE THUMB USING PALMARIS LONGUS AUTO-GRAFT FIXED WITH BIO-ABSORBABLE INTERFERENCE SCREWS.

Author(s): MARK FLEMING, M SOLOMONS

Telephone: 0786641880
E-mail: orthofleming@gmail.com

Injuries to the base of the thumb may tear the thick strong Ulnar Collateral Ligament of the metacarpo-phalangeal joint (MPJ). If this fails to heal by conservative means a chronically lax MP joint may result. This leads to abnormal kinematics at the MPJ predisposing to arthrosis and a debilitatingly weak pinch grip. In these situations surgical reconstruction by means of free tendon autograft has been found to be superior to repair.

We would like to describe a new technique where the graft has been positioned anatomically and fixed in postion with bio-absorbable interference screws.

Surgical rationale includes the ability to accurately tension each limb independently and secure it in such a way that is strong enough to allow immediate post-operative mobilisation without the need for joint immobilisation with trans-articular K-wiring.

Our small case series includes 5 cases. All of whom had chronic MPJ laxity that impaired their pinch grasp. None of these patients had developed arthrosis at the MPJ.

Our results are encouraging with no failures of graft fixation, all the patients have been satisfied with the procedure, pinch grip has been restored in all.

Title: INTRAMEDULLARY LOCKED FIXATION OF CLAVICLE SHAFT FRACTURES – REVIEW OF EARLY RESULTS

Author(s): P (REGGIE) KING, A IKRAM

Registrar: Department of Orthopedics, Tygerberg Hospital
23 7th Avenue, Melkbosstrand, 7331
Telephone: 083 364 8470, 021 938 5458
E-mail: docreg10@gmail.com

Purpose of study
To assess the effectiveness of a novel locked intra-medullary device in the treatment of acute clavicle shaft fractures.

Description of methods
Patients admitted with midshaft clavicle fractures were assessed for inclusion in the study. Inclusion criteria was mid shaft clavicle fractures with 100% displacement; more than 1,5cm of shortening or containing a displaced butterfly segment. Fractures were assessed

for suitability to intra-medullary fixation (fracture distance from the medial and lateral end of the clavicle, medullary diameter and fracture type). 35 patients were treated operatively using the device by the author. Fracture reduction, fracture progression to union, scar size, Dash score, Constant Shoulder score, patient satisfaction and complications were assessed at follow-up by the surgeon, a radiologist and an occupational therapist.

Summary of results

35 patients, 26 males and 9 females with a mean age of 29 were included in the study. All fractures treated achieved union within expected limits with no operative complications. Excellent cosmetic results were achieved in 34 patients with a high level of patient satisfaction reported. 3 patients developed post-operative complications – 2 nail failures and 1 hardware sepsis. All 3 complications were due to inferior implant placement due to initial surgeon inexperience with the device and patient non-compliance with the post-operative regime.

Conclusion

Locked intra-medullary fixation of clavicle shaft fractures that fit the criteria for operative fixation was found to be a reliable, safe method of achieving fracture reduction and fracture union in 35 patients treated. The operation is moderately demanding with a short learning curve.

Title: EPIDEMIOLOGY OF SCAPHOID NON-UNION: WHO IS LIKELY TO DEVELOP NON-UNION AND HOW CAN WE PREVENT IT?

Author: OLE REIGSTAD

Work address: Orthopaedic Department, Rikshospitalet-Oslo University Hospital, N-0027 Oslo, Norway
Telephone: +4723076043
E-mail: ole.reigstad@rikshospitalet.no

Title: THE MOTEC WRIST REPLACEMENT ARTHROPLASTY EXPERIENCE: HOW WELL HAVE THE SUBPOPULATIONS OF OSTEOARTHRITIC SNAC AND SLAC WRISTS DONE?

Author: OLE REIGSTAD

Title: SEVERITY OF UPPER LIMB PANGA INJURIES AND INFECTION RATES IN EARLY VERSUS LATE REPAIRS

Author: CHRISTOPHER PRICE; N HOWARD, W HOLMES, M SOLOMONS, P ROLLINSON

11 Arum Steet Devil's Peak 8001
Telephone: 0823751413
E-mail: cprice2006@gmail.com

Panga or machete attacks are one of the commonest causes of significant upper limb trauma in South Africa. Currently no guidelines exist on the optimum management of these complicated injuries. Debate surrounds the timing of repair due to high infection rates with devastating consequences.

We conducted a multi centre prospective observational study comparing early (<7 days) and late (>7 days) repair with postoperative infection and re rupture rates. 46 patients (mean age 29.9) were recruited into the study and followed up for a mean of 3.4 months (range 0 - 8 months) including, 32 flexor tendon injuries, 14 extensor tendon injuries, 9 fractures and 21 peripheral nerve injuries. 35 were repaired early with 11 being repaired late. Post operatively wounds were assessed using the Asepsis wound scoring system and patients clinically assessed for tendon re rupture. No significant difference was found (p=0.662) in the comparative infection rates of early versus late 6.2% (+/- 7.7 CI 95%) v 18.1% (+/- 22.8 CI 95%)

Our results would indicate that panga injuries can be safely repaired acutely with no increased risk of infection or re rupture.

Title: A COMPARATIVE STUDY TO DETERMINE THE EFFECT OF DYNAMIC SPLINTING VERSUS STATIC SPLINTING OF THE HAND IN THE POST-OPERATIVE TREATMENT OF ZONE V –VII EXTENSOR TENDON INJURIES IN PATIENTS ATTENDING STEVE BIKO ACADEMIC HOSPITAL

Author(s): EVANTHIA PAVLI

University of Pretoria, Department of Occupational Therapy
18 Cristeen Avenue, Cyrildene 2198
Telephone: (011) 6153234
E-mail: eva@clearskyz.co.za

Aim:
To evaluate and compare the outcomes of static splinting with dynamic splinting following zone V – VII extensor tendon repairs in patients attending Steve Biko Academic hospital.

Methods:
A total of 20 patients, with zone V–VII extensor tendon injuries, were included in the trial and were randomly placed in either control or experimental groups. Patients forming part of the experimental group were fitted with dynamic splints, while those forming part of the control group were placed in Plaster of Paris splints. Splinting was continued for 6 weeks and was followed by intensive therapy. Hand function was recorded and compared at 6, 8 and 10 weeks by measuring active range of motion, pulp to palm distances and extension deficit.

Results:
Results of the trial demonstrated an initial superiority of dynamic splinting at 6 weeks with no significant differences noted between the two groups at 8 weeks. At 10 weeks, extension ability in patients treated with dynamic splinting was significantly better than in patients treated with static splinting.

Conclusion:
The researcher proposes that static splinting be retained as the protocol of choice in the treatment of extensor tendon injuries in the patient population attending Steve Biko Academic Hospital. It is simple, effective, inexpensive and useful especially in poorly compliant patients. Dynamic splinting should be reserved for use in patients who are motivated, will comply with therapy and have the financial means to attend regular therapy.

Title: LANDSMEERS LIGAMENT - TAKE TWO

Author(s): DR M SOLOMONS, MR B DANDO

3rd Floor, New Orthopaedic Unit, Vincent Pallotti Hospital, Alexandra Road, Pinelands 7405
Telephone: (021) 506 5674 Fax: (021) 506 5671
E-mail: docsol@iafrica.com

Various strategies have been investigated to define a technique for 'melting away' the fat content of a cadaver finger. Hopefully this would make dissection of the controversial Landsmeers Ligament easier. Concepts and findings will be discussed.

Title: THE USE OF ELASTIC TAPING IN THE CONSERVATIVE MANAGEMENT OF MALLET FINGER INJURIES

Author(s): DERSHNEE DEVAN

P O Box 492, Buccleuch 2066
Telephone: (011) 8049639 Mobile 0824179391
E-mail: dershnee.devan@wits.ac.za

Aims of Study:
To establish the effectiveness of elastic taping in the form of the kinesiotaping method as part of the management protocol of mallet finger injuries.

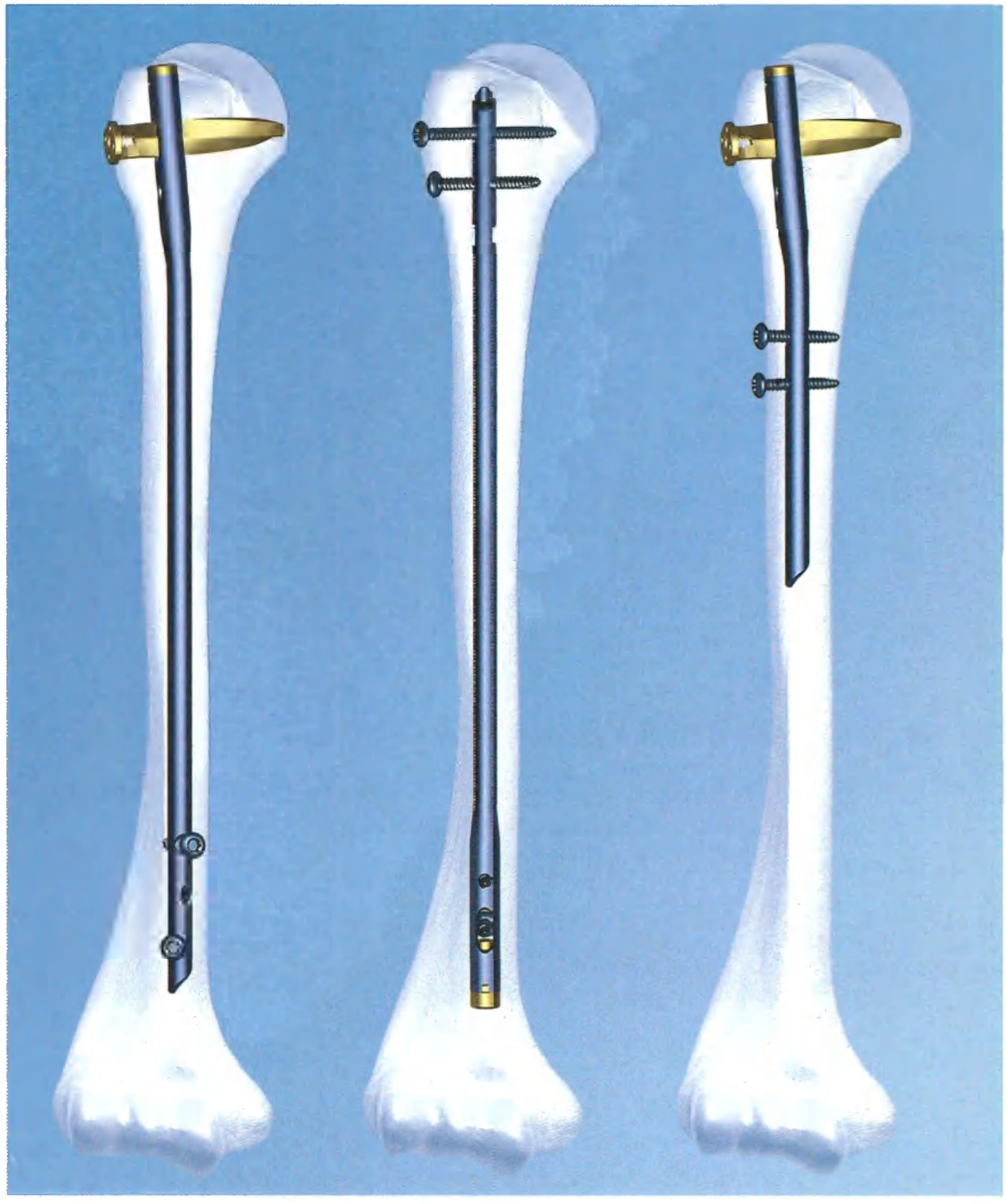
Method:
A retrospective study was conducted on a small group of patients (14), all of whom underwent mallet finger management that differs significantly from the treatment protocol detailed in published literature. The protocol makes use of elastic taping to limit the range of motion of the injured DIP joint and extend the joint using elastic tension. Indications for the implementation of this treatment protocol will be discussed in detail.

Results:
Preliminary results indicate excellent range of motion recovery in patients who were compliant with the elastic tape regimen, and a shorter treatment programme being necessary.

Conclusion:
The use of elastic taping in the conservative management of simple closed mallet finger injuries aids in a quicker recovery of active movement and function, with no compromise on final clinical outcome. This treatment regime will be contrasted with more traditional regimens for the mallet injury.

Expert Humeral Nailing System.
Expert Humeral Nail and Expert Proximal Humeral Nail.

- Advanced proximal locking
- Improved stability
- One system for humeral fractures



24-HOUR EMERGENCY NUMBERS
Johannesburg (Head office): 082 560 1946
Cape Town: 083 266 6357
Durban: 082 893 7774
Bloemfontein: 083 255 5836
Port Elizabeth: 083 255 5826
East London: 083 260 0617

SYNTHES®

Original Instruments and Implants of the Assoc ation for the Study of Internal Fixation – AO/ASIF

www.synthes.com

Title: FROM BENCH TO DARTBOARD: THE EVOLUTION OF OTAL WRIST ARTHROPLASTY

Author: SCOTT WOLFE

Title: INVESTIGATING THE VOLAR SINGLE INCISION APPROACH TO DISTAL BICEPS TENDON RUPTURE AND CORONOID PROCESS FRACTURE FIXATION

Author(s): IVOR PETERSEN, S PRETORIUS

Background:

Ruptures of the distal biceps tendon have received increased attention recently because they seem to occur more frequently than previously thought. Subsequently, more reparative surgery is done as rupture of the distal biceps tendon warrants operative repair, regardless of the patient's age, resulting in an excellent prognosis with early reattachment.

There are two main approaches to the surgical procedure: The two incision and the one incision volar approach, each with its advantages and disadvantages.

Investigation of the volar single incision horizontal approach forms the foundation of this study. With this approach however, directly in the plane of the dissection lies a deep venous plexus also known as the "Leash of Henry". This series of veins lies directly anterior to the insertion of the distal biceps tendon in the radial tuberosity and, in the clinical and operative setting, limits proper exposure.

The primary objective of this cadaver study is to investigate and describe the anatomy and clinical importance of the Leash of Henry in order to maximize surgical exposure to the radial tuberosity insertion site.

Secondary aims include: (i) the anatomy (and variations) of the recurrent radial artery and the origin of the radial artery with surgical exposure ; and (ii) whether this approach can provide safe and adequate exposure to the coronoid process.

Methods:

This cadaver study will evaluate above aims and objectives by simple anatomical dissection. Twenty-five to thirty cadaver arms will be dissected. It is a descriptive study investigating the anatomy of the anticubital fossa aimed at answering above research aims. Gender, age and race are neither inclusion nor exclusion criteria of the study.

The veins of the forearm will be injected with dye after ligation to establish collateral flow proximal to the anticubital fossa, or congestion distally.

Possible variations in the anatomy of the recurrent radial artery and the origin of the radial artery will be described.

Exposure of the coronoid process will be scrutinised, especially regarding its relation to the median nerve and the brachial artery with this approach.

In Conclusion:
This cadaver study will allow the investigator to revisit the anatomy of the anticubital fossa in order to maximize surgical exposure safely.

If the entire "Leash of Henry" deep venous plexus can be sacrificed without causing venous congestion of the forearm, with adequate collateral venous flow proximal to the anticubital fossa, it will:

i. Maximize safe surgical exposure
ii. Decrease surgical time
iii. Give the surgeon peace of mind
iv. Decrease the risk of post-operative bleeding as all veins can be ligated in a controlled manner intra-operatively

The study will, conversely, also demonstrate which certain branches (if any) of the deep venous plexus may be ligated without causing venous congestion.

Although the literature advocates ligation of the recurrent radial artery, the study will investigate whether it can be spared (retracted) on a regular, consistent basis as it supplies (though not solely) the Supinator, Brachioradialis and Brachialis muscles, as well as the elbow joint. Describing the origin and initial course of the radial artery is also important with this operative approach as it should, from an anatomical point of view, be a significant obstacle during surgical dissection, which the literature does not suggest.

Key Words:
Anticubital fossa , surgical approach , distal biceps tendon rupture , coronoid exposure , radial nerve , lateral antebrachial cutaneous nerve , radial artery , deep venous plexus , Leash of Henry

---

Title: EVALUATION OF MINIMALLY INVASIVE CARPAL TUNNEL DECOMPRESSION USING THE KNIFELIGHT®

Author(s): ABDUL RAWOOT, AJMAL IKRAM

8 Grove Village, Stuart Road, Rondebosch 7700
Telephone: 076 7060919
E-mail: a_arawoot@yahoo.com

Aim:
To evaluate retrospectively the safety and effectiveness of the minimally invasive Carpal Tunnel decompression using the Knifelight® (Stryker)

Method:
We reviewed 45 patients who had Carpal Tunnel decompressions using the minimally invasive technique. All cases were done under local anaesthesia. Our surgical approach differed from the more common technique using the Knifelight® in-that our incision was made at the distal margin of the flexor retinaculum along the median palmer crease and measured approximately 15mm. The flexor retinaculum was then blindly divided in a proximal direction with transillumination from the light source of the Knifelight® serving as a guide. Our patients were followed-up at 2 and 6 weeks post-operatively. They were assessed for any complications and functional outcome using the Boston Carpal Tunnel Questionnaire.

Results:
We recorded one complication (superficial wound infection in a type 1 Diabetic patient). No damage to Median nerve or its branches. Patients experienced less scar tenderness and pillar pain and had excellent functional outcome.

Conclusion:
Carpal Tunnel decompression using the Knifelight® is a safe and effective method.

Title: THE OUTCOME OF POST SURGICAL RECURRENT CARPAL TUNNEL SYNDROME TREATED WITH AN EXTENDED RELEASE AND A SYNOVIAL FLAP

Author(s): ATTIE H BOTHA; A IKRAM

2 Leona Hof, Beach Road, Strand 7140
Telephone: 079 5228369
E-mail: attiebotha1@mweb.co.za

Aims of Study
To evaluate the efficacy of treating post surgical recurrent carpal tunnel syndrome with an extended carpal tunnel release and a synovial flap.

Method
A retrospective study was done over 18 months to firstly asses the recurrence rate of carpal tunnel syndrome postoperatively, and secondly to evaluate if extended carpal tunnel release with accompanying synovial flap is a successful treatment modality. 234 Carpal tunnel releases were performed during the period of 1 January 2010 to 30 June 2011. During this period 11 patients presented at our clinic with symptoms and clinical signs suggestive of recurrent carpal tunnel syndrome.

Nerve Conduction studies confirmed the recurrence of carpal tunnel syndrome. An extended carpal tunnel release was performed with a synovial flap.

Patients were followed up at the clinic to asses improvement and resolution of symptoms.

Results
All the patients included in the study were female and older than 45 years of age and had several comorbid diseases. 9 out of 11 patients had complete resolution of their symptoms. 2 Patients who did not improve were found to have median nerve damage and had suboptimal improvement.

Conclusion
The study shows that an extended carpal tunnel release with a synovial flap is a good treatment modality for recurrent carpal tunnel syndrome.

Title: COMPARING TENDON TRANSFERS TO INCREASE EXTERNAL ROTATION IN OBPI

Author(s): MICHAEL SOLOMONS, S ROCHE, M MAREE

Arthroscopic release of the internally rotated shoulder following Obstetric Palsy is well described. The technique to maintain external rotation by means of a tendon transfer is more controversial. At Groote Schuur Hospital we have used the L'Episcopo transfer, the Carlioz procedure and the lower third of trapezius as a transfer. These three techniques will be compared and our current protocol discussed.

Title: NERVE TRANSFERS: ADVANCES, EVIDENCE AND EXPECTATIONS. WHEN DO WE APPLY THIS EXCITING TECHNIQUE?

Author: SCOTT WOLFE

Title: AN ASSESSMENT OF A TWO LAYER SUBCUTICULAR CLOSURE USING POLY-GLE-CAPONE 25 (MONOCRYL) SUTURES IN HAND SURGERY

Author(s): MARSHALL MURDOCH

Plastic Surgeon, Wits Donald Gordon Medical Centre, Parktown, Johannesburg
Lower Level, 18 Eton Road, Parktown 2193
Telephone: (011) 356 6205
E-mail: marshall@murdochplasticsurgery.com

Introduction

Most hand surgery texts recommend the use of fine, interrupted nylon sutures for skin closure and most hand surgeons utilize this technique. There have been anecdotal reports of poor results using buried, absorbable sutures and this method is thus not popular. Elsewhere in the body, however, the use of an absorbable, two layered sub-cuticular closure has been associated with excellent results and has become the standard of practice.

Methods and Materials

This report is a retrospective review of a single surgeon's experience with absorbable sub-cuticular closure in hand surgery. The author uses only Monocryl brand (Ethicon). The author's skin closure protocol consists of a layer of interrupted deep dermal sutures, followed by a sub-cuticular closure, with buried start and end knots. The start knot consists of a standard deep dermal suture and the end knot consists of an Aberdeen knot with 4 throws. Post-operative dressing consists of polyurethane spray and steri-strips. No scar massage is performed in the first three weeks.

Results

82 Patients were submitted for review. There were 38 males and 44 females. The average age was 49.28 years (range 9 months – 87 years). 38 Left hands and 44 right hands were operated on. 25 Cases were emergent and 57 elective. The case spread was as follows: Tendon/ligament surgery = 6, Flap surgery = 5, Nerve compression = 36, Trauma = 21, Tumours = 6 and Other = 8. The monocryl gauges used were as follows : 3/0 = 6, 4/0 = 11, 5/0 = 63 and 6/0 = 2. There were 6 wound related complications (7.3%) which were all minor. 4 Suture granuloma reactions and 2 minor wound dehiscence were noted.

Conclusion

The author's experience with subcuticular monocryl has been very positive. The patients are almost universally very pleased with the results. Additional benefits include the absence of "tram-track" scars associated with external sutures as well as more streamlined follow up as there is no need for suture removal. The wound complication rate, although all minor, is nevertheless acceptable and suggests that this method of closure is not associated with poorer wound healing.

Title: BILATERAL POST BURN CONTRACTURE OF THE HANDS WHICH COMPLICATED INTO MARJOLIN ULCERS – SQUAMOUS CELL CARCINOMA

Author(s): TT MAKOBELA, SS GOLELE

P O Box 2285 Damdoryn Hartbeespoort 0280
Telephone: 012 521 4049, 0828857141
E-mail: thabomak@webmail.co.za

Abstract:

Background:. We describe here a very rare presentation of bilateral post burn contracture of hands which complicated into Marjolin ulcers- squamous cell carcinoma.

Material : The patient with bilateral squamous cell carcinoma post burn scar.

Method: The patient with bilateral squamous cell carcinoma pos burn contractures presented as a referral from one of our peripheral hospitasl with chronic ulcerations that were done biopsy at that hospital with histologic results of squamous cell carcinoma. The patient was later done excisional biopsy in our hospital and also confirmed the diagnosis of squamous cell carcinoma of both hands. The patient also had a satellite lesicn on the axilla that was also biopsied and also confirmed squamous cell carcinoma.

Results: The (R) hand was treated with a free flab that later sloughed on the periphery (Fig)

Conclusion: To our knowledge bilateral squamous cell carcinoma of hands post burns has not been reported in the literature so far and its presentation is a matter of discussion.

Title: CASE STUDY – METACARPOPHALANGEAL ARTHROPLASTY USING THE ASCENSION® MCP SYSTEM IN ANKYLOSIS FOLLOWING SEPSIS

Author(s): CHRISTOPHER E PRICE, M SOLOMONS.

A 50 year old man who had sustained a "fight bite" 12 years ago presented to our clinic with a stiff index finger. There was bony anklysosis of the second metacarpophalangeal joint with relatively well preserved range of motion at the proximal and distal interphalangeal joints. He was consented for arthroplasty using the Ascension MCP System and the excellent postoperative results are shown.

Title: THE VOLAR APPROACH TO THE SRS PIP ARTHROPLASTY – A CASE SERIES IN GOLFERS

Author: SCOTT WOLFE

Title: COMPARISON OF NERVE TRANSFERS AND NERVE GRAFTING FOR UPPER PLEXUS PALSY

Author: SCOTT WOLFE

Title: SELECTED GOOD RESULTS IN BRACHIAL PLEXUS SURGERY

Author: MIKE SOLOMONS

In the General Orthopaedic and Hand Surgery Community there remains skepticism and doubt as to the reconstructive gains that can be achieved in modern Brachial Plexus Surgery. This presentation will highlight some fantastic results with good functional recovery. While it is accepted that total plexus palsy is very difficult to reconstruct, partial injuries especially in younger patients can be associated with very gratifying results

Title: AVOIDING NON-UNION: THE CASE FOR PERCUTANEOUS SCAPHOID FIXATION

Author: SCOTT WOLFE

Title: THE LIEBENBERG SYNDROME

Author: ULRICH MENNEN

374 Lawley Street, Waterkloof 0181
Telephone: (012) 4216739
E-mail: umennen@icon.co.za

In 1972 Dr Freddie Liebenberg described a syndrome which looked similar to radial dysplasia (radial club hand). He published his findings in the SA Medical Journal 5 May 1973 entitled "A Pedigree with Unusual Anomalies of the Elbows, Wrists and Hands in Five Generations".

Recently we added 2 more generations, including an entirely different branch of the family tree, bringing the total of affected members to some 33 individuals.

This autosomal dominant Syndrome will be discussed in detail which affects only the upper limbs.

Genetic studies indicate that Chromosome 5 is implicated.

In essence it seems that the developing limb-bud is being directed to form a knee joint at the elbow, and an ankle joint at the wrist.

Title: ULNAR-SIDEDWRIST PATHOLOGY:AN ALGORITHMIC APPROACH TO TFCC, CHRONIC RADIO-ULNAR INSTABILITY

Author: SCOTT WOLFE

Title: MID-CARPAL INSTABILITY: MAKING SENSE OF (CIND)

Author: SCOTT WOLFE

Title: SCAPHOLUNATE LIGAMENT INJURY: A CASE-BASED APPROACH TO TREATMENT

Author: SCOTT WOLFE

Title: CONNECTION BETWEEN A2 PULLEY AND OBLIQUE RETINACULAR LIGAMENT: ANATOMICAL DISSECTION

Author: ERICH MENNEN

Suite G2 Kloof Hosp. Postnet Suite 373 P/Bag X10 Elarduspark 0047
Telephone: 012 367 4296, 0825752591
E-mail: erichmennen@mweb.co.za

Anatomic dissection of a fresh frozen hand of an adult male revealed an interesting ligament. A connection between the A1 pulley and the oblique retinacular ligament could be identified. This ligament occurred only on the radial aspect of the index and middle fingers but not in the remaining digits. On simulated flexion of the digit an interesting relationship seems to exist between the connection from the pulley, the Landsmeer ligament and the lateral band.

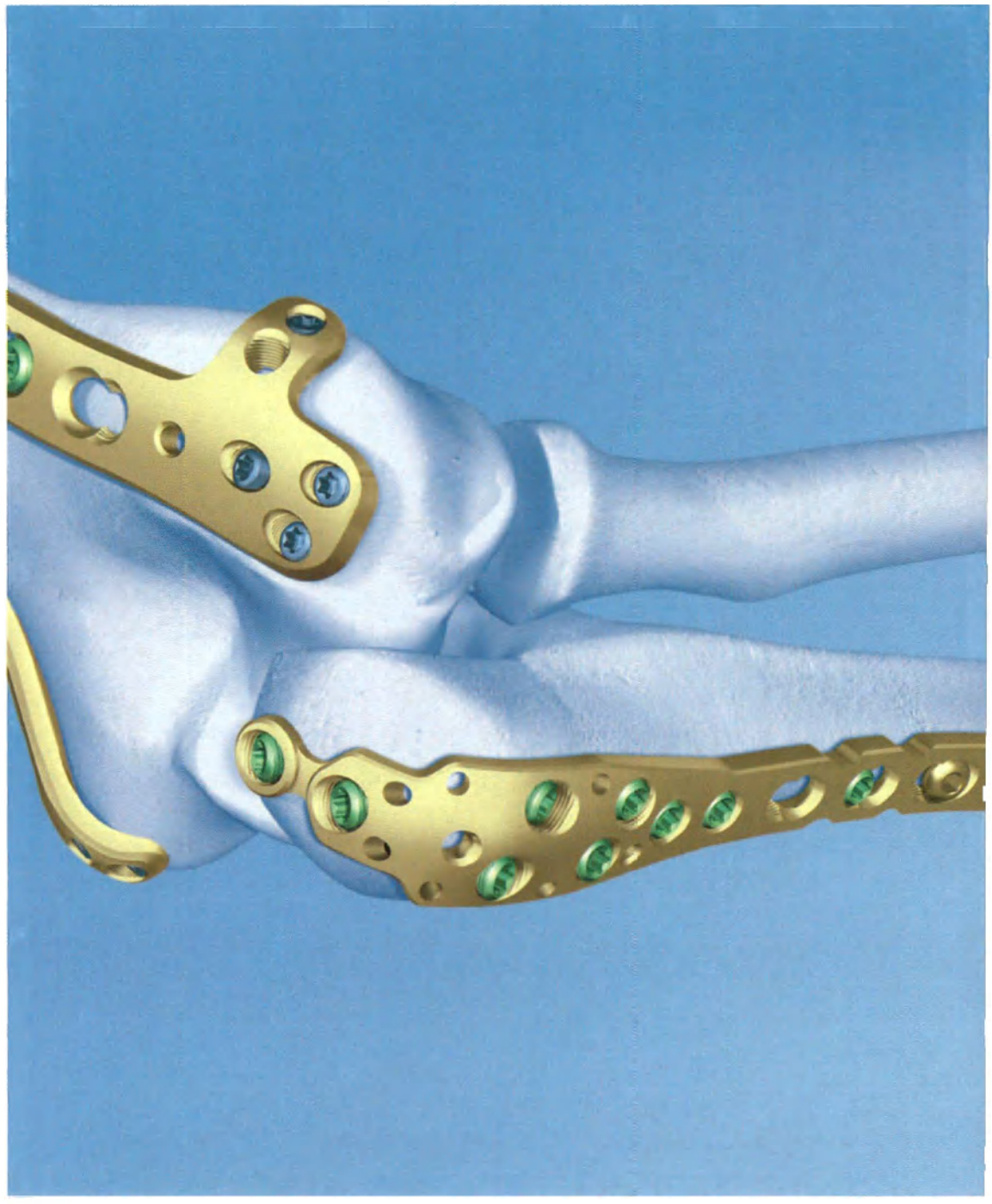
Previous reports of this connection can be found in the Canadian literature. The author will merely attempt to draw attention to interesting variations found in relation to the oblique retinacular ligament.

Title: FLEXORTENDON REPAIR:WHAT HAVE WE LEARNED? (INCLUDES CRUCIATE SURGICAL TECHNIQUE VIDEO)

Author: SCOTT WOLFE

Synthes Elbow Solutions.
All in one set.

- Extensive fixation options for distal humeral fractures
- Anatomically pre-contoured
- Optimal fit for patient comfort



SYNTHES®

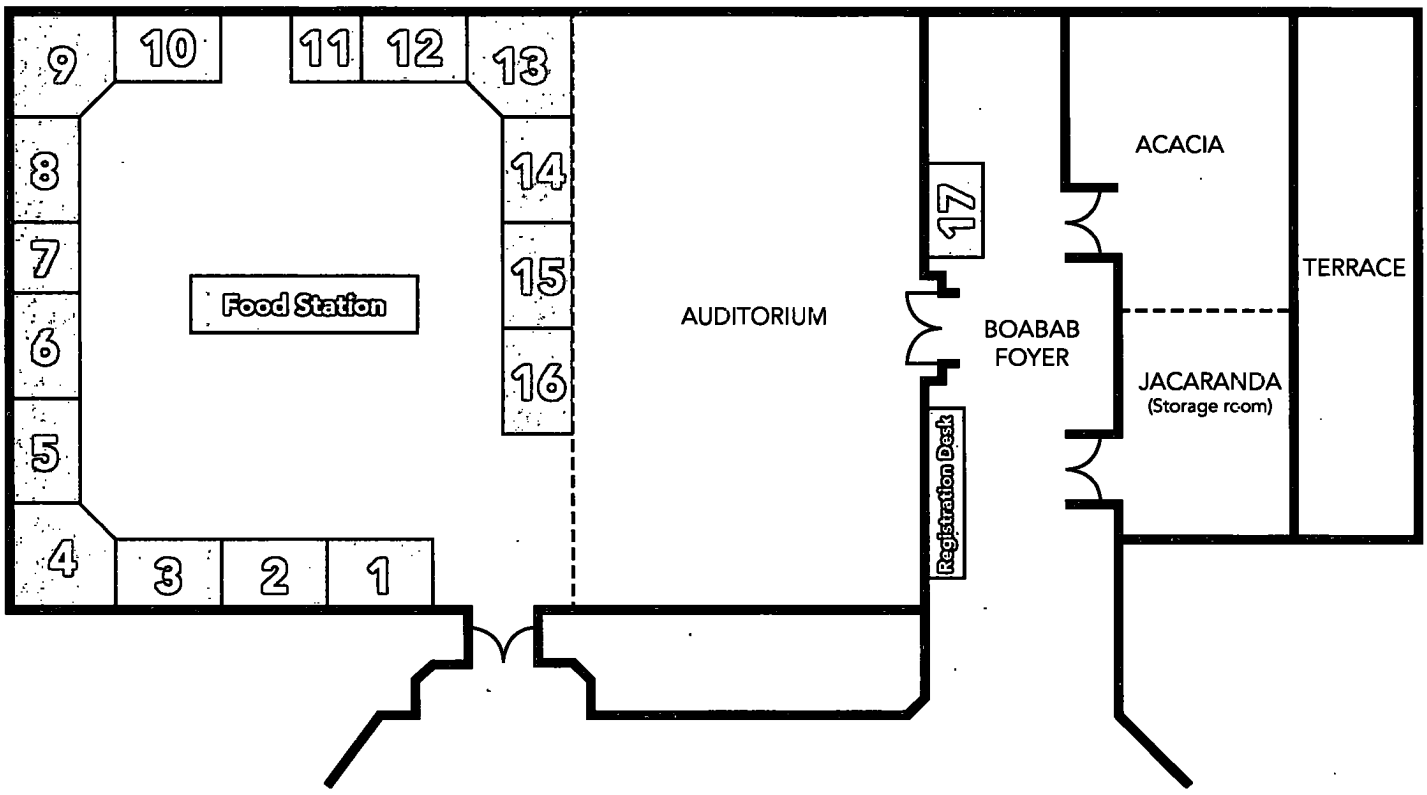
Original Instruments and Implants of the Association for the Study of Internal Fixation – AO/ASIF

24-HOUR EMERGENCY NUMBERS
Johannesburg (Head office): 082 560 1946
Cape Town: 033 266 6357
Durban: 082 893 7774
Bloemfontein: 083 255 5836
Port Elizabeth: 083 255 5826
East London: 083 260 0617

www.synthes.com

Trade Exhibitors

1 Smith & Nephew (Pty) Ltd
2 Werkomed (Pty) Ltd
3 SA Biomedical (Pty) Ltd
4 Stratmed
5 Karl Storz
6 Macromed cc
7 Neomedical
8 Stryker SA
9 Affordable Medical
10 Synthes
11 Bone SA
12 Combined Medical Specialities
13 Bloomberg Holomisa Orthopaedic Solutions (Pty) Ltd
14 & 15 J & J Medical (Pty) Ltd DePuy
16 Southern Medical
17 PB Mayer Medical Books and Journals



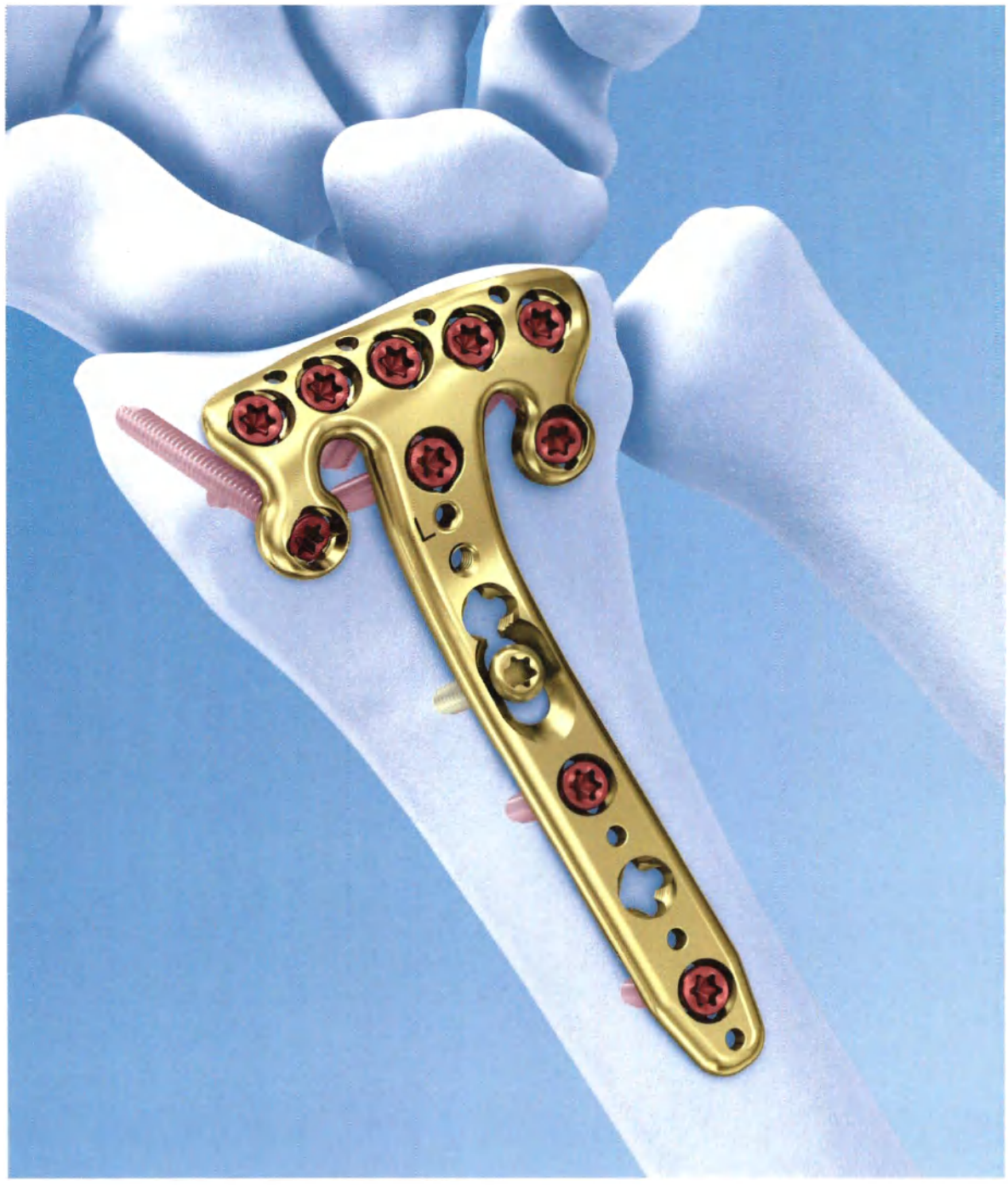
Sponsors

Affordable Medical	Airfare and Accommodation: Dr Ole Reigstad Drinks: Welcome Function
J & J Medical (Pty) Ltd DePuy	Lanyards, Name tags and Pens
Macromed cc	Red wine at Congress Dinner
PB Mayer Medical Books & Journals	Writing pads
Southern Medical	Audiovisual Services
Stratmed	Airfare: Dr Scott Wolfe Drinks: Welcome Function
Synthes (Pty) Ltd	Congress Brochure

The President and Executive Committee of SASSH would like to thank the trade for their attendance, participation and continuous sponsorship of this event

Variable Angle LCP Volar Rim Distal Radius Plate 2.4 mm is indicated for the fixation of complex intra-articular and extra-articular fractures of the distal radius.

- Variable angle up to 15°
- Anatomically pre-contoured
- Bendable tabs for individual anatomical variations



SYNTHES®

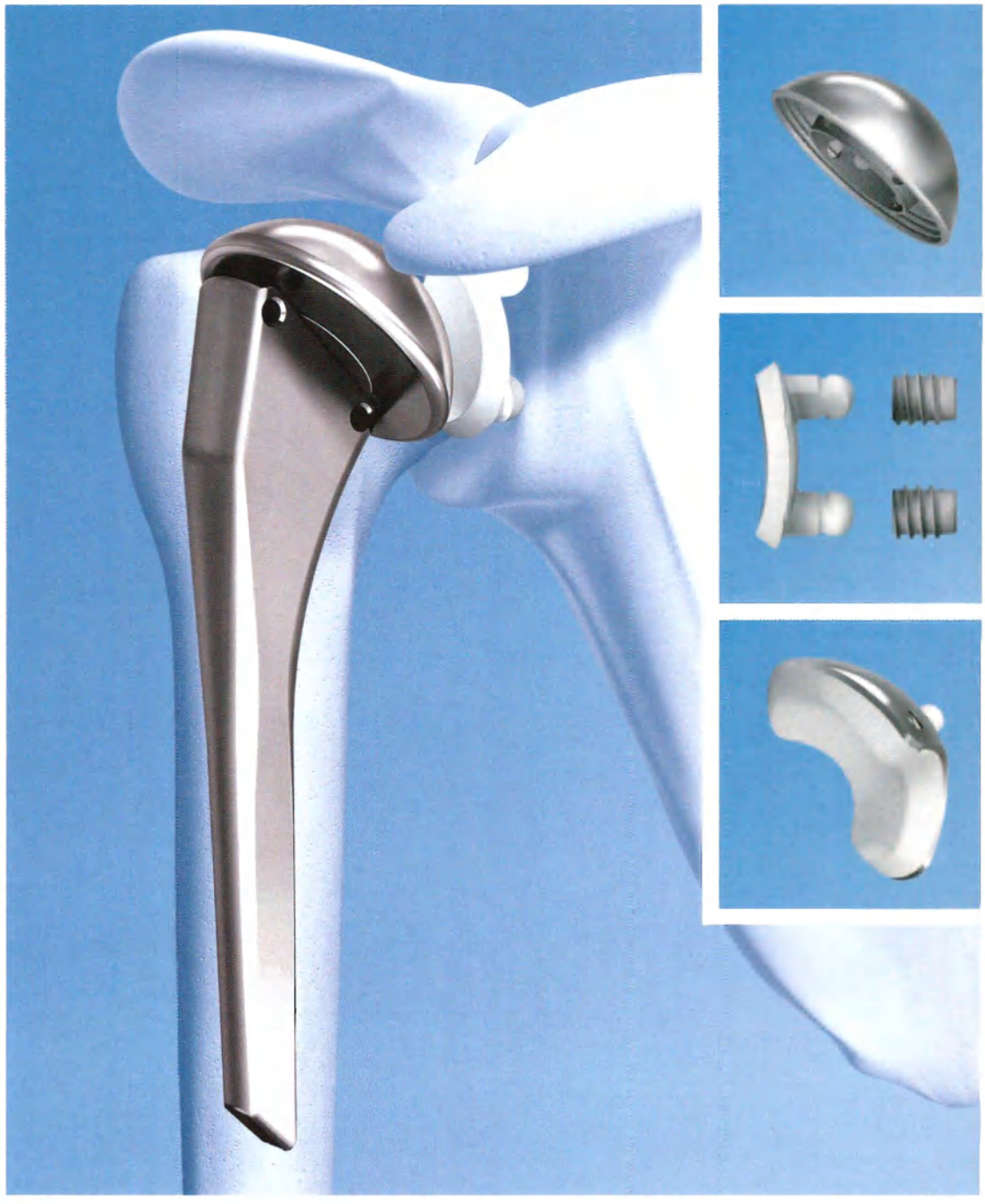
Original Instruments and Implants of the Association for the Study of Internal Fixation – AO/ASIF

24-HOUR EMERGENCY NUMBERS
Johannesburg (Head office): 082 560 1946
Cape Town: 083 266 6357
Durban: 082 893 7774
Bloemfontein: 083 255 5836
Port Elizabeth: 083 255 5826
East London: 083 260 0617

www.synthes.com

EPOCA. Shoulder Arthroplasty.

- Hemi anc total joint replacement for fractures and degenerative conditions
- Resurfacing
- Reconstruction glenoid for rotator cuff deficiencies



SYNTHES®

Original Instruments anc Implants of the Association for the Study of Internal Fixation – AO/ASIF

24-HOUR EMERGENCY NUMBERS
Johannesburg (Head office): 082 560 1946
Cape Town: 083 266 6357
Durban: 082 893 7774
Bloemfontein: 083 255 5336
Port Elizabeth: 083 255 5826
East London: 083 260 0617

www.synthes.com