



# The Hong Kong Society for Surgery of The Hand 34<sup>th</sup> Annual Congress

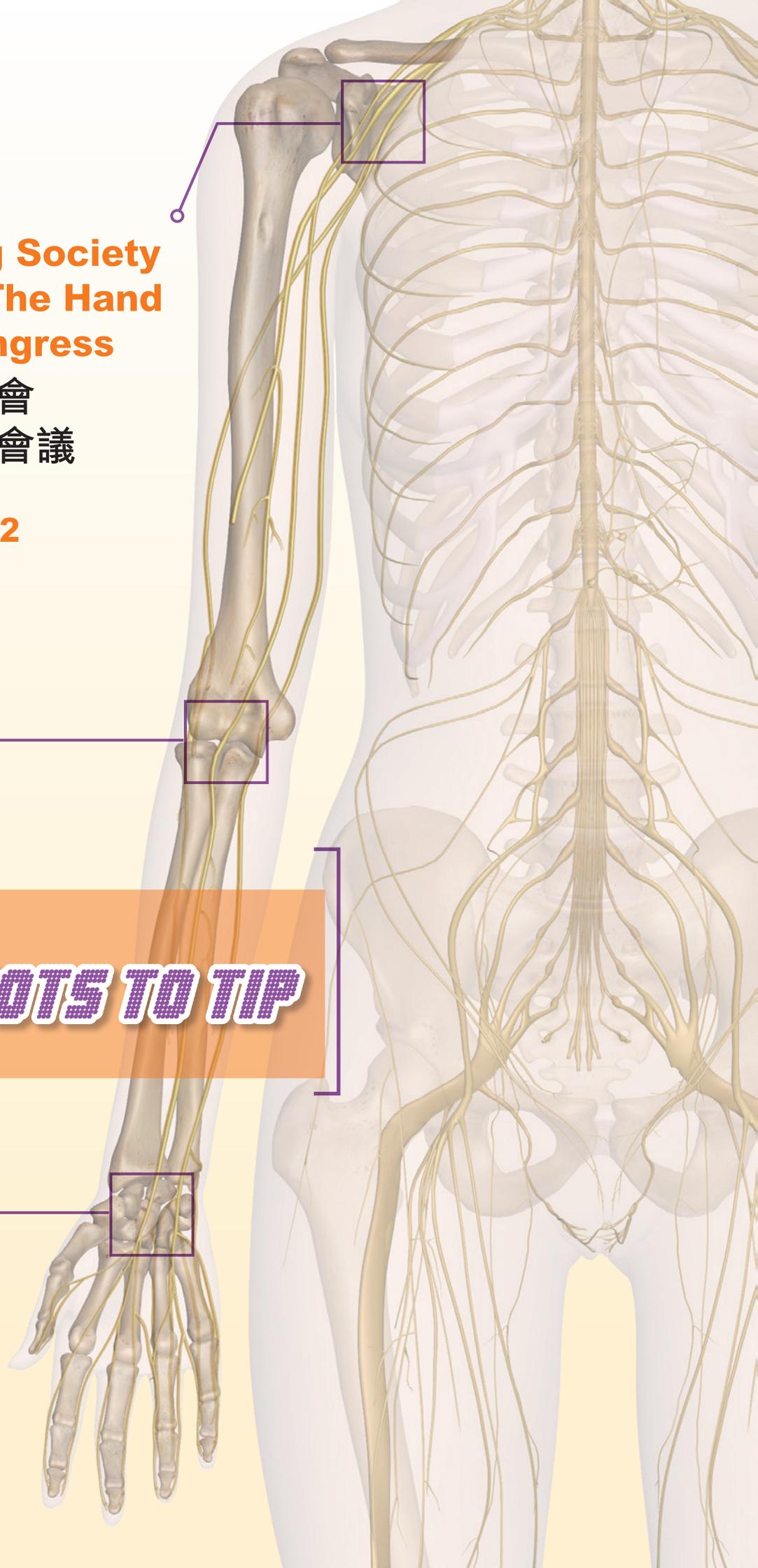
香港手外科醫學會  
第三十四屆學術會議

19-20 March, 2022

*Nerves:*

***FROM ROOTS TO TIP***

Programme Book



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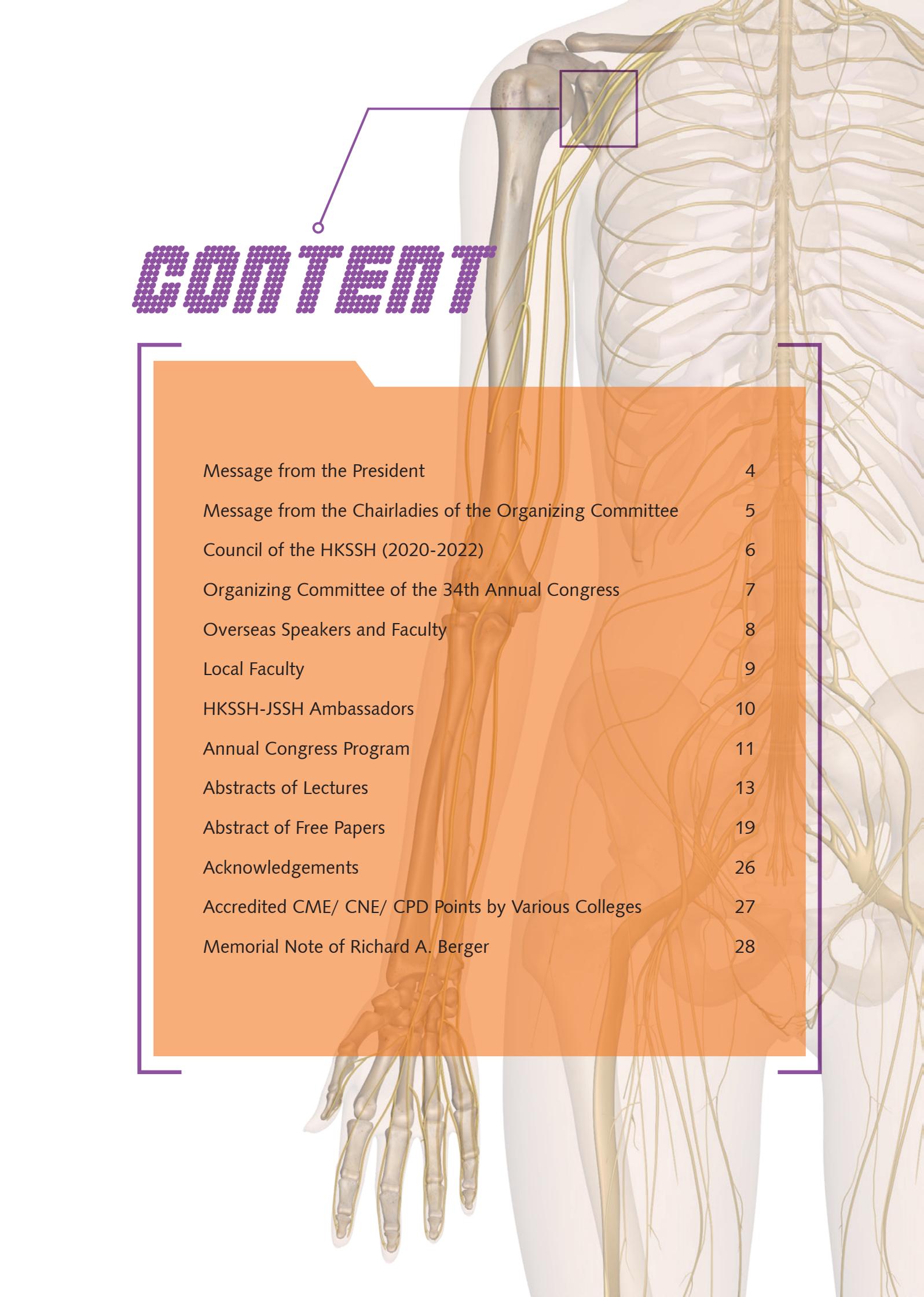


**Standard Bend Plate**



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# CONTENT

Message from the President	4
Message from the Chairladies of the Organizing Committee	5
Council of the HKSSH (2020-2022)	6
Organizing Committee of the 34th Annual Congress	7
Overseas Speakers and Faculty	8
Local Faculty	9
HKSSH-JSSH Ambassadors	10
Annual Congress Program	11
Abstracts of Lectures	13
Abstract of Free Papers	19
Acknowledgements	26
Accredited CME/ CNE/ CPD Points by Various Colleges	27
Memorial Note of Richard A. Berger	28

# MESSAGE FROM THE PRESIDENT



**Wing-Lim TSE**

President  
The Hong Kong Society for Surgery of the Hand

Dear friends from AAHS and local surgeons who are interested in hand surgery,

Welcome to the 34th annual congress of HKSSH!

The original plan of this congress was a face-to-face meeting with international experts from AAHS coming to Hong Kong with pre-congress cadaveric workshop. However, because of worsening COVID-19 pandemic situation the format has to be changed to webinar. Nevertheless, we believe we can still learn and share a lot through this platform with international experts and with our Ambassadors.

Currently Hong Kong is badly attacked by the pandemic and in a population of just 7 million we are having 20 to 50 thousand newly diagnosed cases with hundreds of patients died everyday carrying a positive COVID-19 status.

As surgeons we feel helpless in this situation... what we can do is minimizing the elective service to vacate more beds to infected patients and prevent nosocomial cross infection.

But as doctors we can contribute by taking care of some of the infected patients, by offering vaccination to patients, by rectifying the everchanging policies in public health and infection control...

Instead of touching our patients with scalpels, we may now touch our patients more with our hands...

And with this touch, there is a signal named "we care" transmitted to two hearts, both the patient and the care giver.

We have sophisticated hand structures, but it is the nerve that enable our hands to function.

Maybe that's the reason why we have to visit the nerve this time.

We need to feel the suffering of the patient with our nerves.

And we need the nerve to make a better world with less suffering.

Let's work hand in hand with nerve.

TSE Wing-lim  
President  
HKSSH (2020-2022)

# MESSAGE FROM THE CHAIRLADIES OF THE ORGANIZING COMMITTEE



**Margaret Woon-man FOK**

Co-chairperson  
Organising Committee  
34<sup>th</sup> Annual Congress



**Michelle Syn-yuk LEE**

Co-chairperson  
Organising Committee  
34<sup>th</sup> Annual Congress

Dear Professors, seniors, colleagues and esteemed guests,

On behalf of the Organizing Committee, it is our great honor and pleasure to welcome you all to the 34th Annual Congress of the Hong Kong Society for Surgery of the Hand.

The theme for this year is “Nerves: from Roots to Tip”. We shall be discussing on common topics like peripheral nerve entrapments to infrequent pathologies like brachial plexus injuries, or even uncommon nerve entrapments and intra-neural lesions. In addition, we have a symposium on step-by-step surgical techniques for the management of some common peripheral nerve conditions.

This year we are privileged of having American Association for Hand Surgery (AAHS) as our guest society. Unfortunately, with the current COVID – pandemic, we must convert our face-to-face meeting to pure virtual. Yet we remain excited that we can still have knowledge exchange with our American colleagues via the virtual platform. We maintain to keep close contacts with our sister societies and look forward to welcoming all the overseas ambassadors to the HKSSH annual congress once the pandemic is over.

We hope that you will enjoy this one-and-a-half-day programme. No matter whether you are a trainee, or fellow, hand surgeons or non-hand surgeons, we hope you would find inspirations from this congress. Please keep safe and be well. See you all soon in person.

# COUNCIL OF THE HKSSH (2020-2022)



## PRESIDENT

Wing-lim TSE

## PRESIDENT-ELECT

Jeffrey Justin Siu-cheong KOO

## HONORARY TREASURER

Edmund Leung-kai YAU

## VICE-PRESIDENT

Margaret Woon-man FOK

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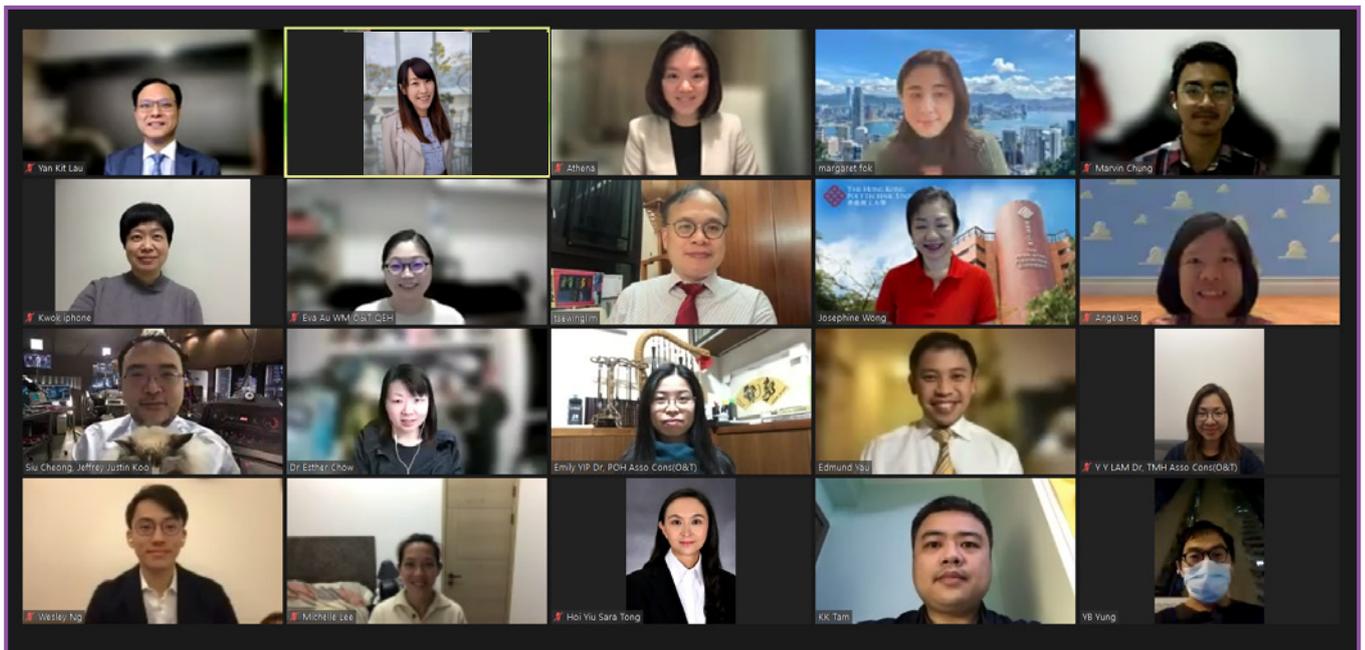
## COUNCIL MEMBERS

Angela Wing-hang HO

Yan-kit LAU

Emily Ka-yan YIP

# ORGANIZING COMMITTEE OF THE 34TH ANNUAL CONGRESS



## CO-CHAIRLADIES

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Michelle Syn-yuk LEE

## MEMBERS

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Yuk-yu LAM

Wing-lim TSE

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Angela Wing-hang HO

Wesley NG

Douglas Yu-bun YUNG

Jeffrey Justin Siu-cheong KOO

Ka-ki TAM

Wai-yu KWOK

Sara Hoi-yiu TONG

# OVERSEAS SPEAKERS AND FACULTY



## John Lubahn

President of American Association for Hand Surgery  
Orthopaedic and Hand Surgeon  
UPMC Hamot  
Pittsburgh, United States



## Amy Moore (Professor)

Professor and Chair  
Robert L. Ruberg MD Alumni Chair  
Department of Plastic and Reconstructive Surgery  
Wexner Medical Center  
The Ohio State University  
Ohio, United States



## Nash Naam

Immediate Past President of American Association for Hand Surgery  
Orthopaedic and Hand Surgeon  
HSHS St Anthony's Memorial Hospital / HSHS Holy Family Hospital in Greenville  
Effingham, Illinois, United States



## Mark Rekant

Associate Professor  
Department of Orthopaedic Surgery  
Thomas Jefferson University  
Philadelphia, United States



## Dan Zlotolow (Professor)

Pediatric and Adult Upper Limb and Nerve Surgeon  
Professor of Orthopaedic Surgery  
Shriners Hospitals for Children  
The Hospital for Special Surgery  
United States



## Glenn Gaston

Chief of Hand Service  
Department of Orthopaedic Surgery  
Carolinas Medical Center  
Charlotte, North Carolina,  
United States



## Kyle Eberlin

Associate Professor of Surgery  
Program Director, Harvard Plastic Surgery Residency Program  
Associate Director, MGH Hand Surgery Fellowship  
Massachusetts General Hospital  
Harvard Medical School  
Massachusetts, United States



## Jason Ko

Associate Professor  
Program Director, Plastic Surgery Residency  
Division of Plastic and Reconstructive Surgery  
Department of Orthopedic Surgery  
Northwestern University Feinberg School of Medicine  
Chicago, United States



## Julie Adams (Professor)

Professor of Orthopedic Surgery  
University of Tennessee College of Medicine  
Chattanooga, United States



## Peter Murray (Professor)

Professor and Chair  
Department of Orthopaedic Surgery  
Mayo Clinic  
Florida, United States

# LOCAL FACULTY



## Clare BLACK

Occupational Therapist  
Sportsperformance Physiotherapy  
Accredited Hand Therapist (AHT), Australian  
Hand Therapy Association (AHTA)



## Timmy Chi-wing CHAN

Pain Medicine Physician and Anaesthetic  
Consultant  
Clinical Team Head of Pain Management Team  
Department of Anaesthesiology, Queen Mary  
Hospital



## Esther Ching-san CHOW

Consultant  
Department of Orthopaedics and  
Traumatology, United Christian Hospital



## Margaret Woon-man FOK

Associate consultant  
Department of Orthopaedics and  
Traumatology, Queen Mary Hospital



## Pak-cheong HO

Chief-of-Service and Consultant  
Department of Orthopaedics &  
Traumatology, Prince of Wales Hospital



## Wing-yuk IP

Clinical Associate Professor  
Department of Orthopaedics & Traumatology,  
LKS Faculty of Medicine, The University of  
Hong Kong



## Jeffrey Justin Siu-cheong KOO

Associate consultant  
Department of Orthopaedics & Traumatology,  
Alice Ho Miu Ling Nethersole Hospital



## Tak-wing LAU

Consultant  
Division chief, Division of General  
Orthopaedics  
Department of Orthopaedics and  
Traumatology, Queen Mary hospital  
Honorary Associate Professor, The University  
of Hong Kong



## Michael Chu-kay MAK

Associate consultant  
Department of Orthopaedics &  
Traumatology, Prince of Wales Hospital



## Jenna NG

Occupational Therapist  
Department of Occupational Therapist  
Pamela Youde Nethersole Eastern Hospital



## Wing-lim TSE

Consultant  
Department of Orthopaedics &  
Traumatology, Prince of Wales Hospital



## Edmund Leung -kai YAU

Associate consultant  
Department of Orthopaedics &  
Traumatology, Queen Elizabeth Hospital



## Emily Ka-yan YIP

Associate consultant  
Department of Orthopaedics & Traumatology,  
Tuen Mun Hospital

# HKSSH-JSSH AMBASSADORS

## Issei Nagura

Department of Orthopaedic Surgery, Ako City Hospital



## Preoperative evaluation of thenar muscles in carpal tunnel syndrome by Ultrasonography

**Hypothesis:** Quantitative analysis of thenar muscles by ultrasonography is practical for evaluating the thenar atrophy in carpal tunnel syndrome (CTS).

**Methods:** Eighty-five patients with CTS who had a carpal tunnel release procedure with a mean age of 67.4 years were included in this study. Ultrasonographic examination was performed to evaluate the abductor pollicis brevis (APB) and opponens pollicis (OPP) muscles. The transducer was applied onto the palmar surface of the hand perpendicularly to the longitudinal axis of the first metacarpal bone. Both muscles were analyzed by measuring their thickness; the “APB depth” and the “OPP depth”. Thenar atrophy was evaluated visually and classified by the visual grading scale. Also, a nerve conduction test was performed and classified according to the electrophysiological severity scale. The correlation of “APB depth” and “OPP depth” with the visual grading scale were analyzed by the Chi-squared test ( $p < 0.05$ ). The correlation of “APB depth” and “OPP depth” with the electrophysiological severity scale were analyzed by the Turkey-Kramer HSD test ( $p < 0.05$ ).

**Results:** As the severity of the visual grading scale increased, the averages of the “APB depth” and “OPP depth” decreased. The significant correlations of both thenar muscles and the visual grading scale were found. [Males-APB ( $p = 0.0008$ ) and OPP ( $p = 0.049$ ), Females-APB ( $p < 0.001$ ) and OPP ( $p = 0.0013$ )] However, in parallel comparing the severity of the electrophysiological grading, “APB depth” and “OPP depth” did not correlate.

**Conclusion:** Our ultrasonographic evaluation of thenar atrophy in CTS could be a useful tool for evaluating the thenar atrophy level.

## Shiro Yoshida MD<sup>1</sup>, Tsu-Min Tsai MD<sup>2</sup>

<sup>1</sup> Department of Orthopaedic Surgery, Kurume University School of Medicine, Fukuoka Japan

<sup>2</sup> Christine M. Kleinert Institute for Hand and Microsurgery, Louisville, KY



## Double Fascial Flap Stabilization for Ulnar Nerve Instability After In-Situ Decompression

**Purpose:** To assess outcomes of double fascial flap stabilization in the management of ulnar nerve subluxation post a simple decompression for cubital tunnel syndrome.

**Methods:** We conducted a retrospective review of 20 patients with ulnar nerve subluxation post a simple decompression treated with double fascial flap stabilization between 2016 and 2018. Fascial flaps were harvested from the flexor carpi ulnaris and the septum between the triceps and biceps. Patients were classified using McGowan criteria and outcomes measured using the visual analog scale (VAS), grip strength, and Messina’s criteria for recovery. In addition, we assessed ulnar nerve instability following in-situ decompression in 10 fresh cadavers. Tang’s grading and measuring system was used for measurement of ulnar instability.

**Results:** There were 13 (65%) excellent and 7 (35%) good outcomes. Mean follow-up was 9.1 months (range 3 to 23). Mean VAS scores were significantly improved from their preoperative status (5.8 vs 1.3). Mean Quick DASH scores were significantly improved from their preoperative status (37.9 vs 10.9). Mean grip strength compared with the contralateral side improved significantly (73.9% vs 89.6%). Anatomic cadaveric dissection revealed that 6 out of 10 (60%) met the criteria of moderate to severe ulnar nerve instability.

**Conclusions:** Double fascial flap stabilization with simple decompression provides excellent clinical results at short term follow-up. This technique provides an alternative strategy to prevent ulnar nerve instability with the advantage of preserving nerve vascularity. Long term follow-up is required to evaluate the potential impact on recurrence or failure of simple decompression. Level of evidence: Therapeutic IV.

# ANNUAL CONGRESS PROGRAM

## Day 1 Program 19th March, 2022

Time		Topic	Speaker	Moderator
08:30 - 08:40	Opening Remarks		HKSSH President	WL Tse
08:40 - 08:50	AAHS introduction		AAHS President	John Lubahn
08:50 - 09:05	Symposium 1 Painful Nerve	Contemporary Innovations in neuroma surgery	Kyle Eberlin	Margaret Fok Rachel Lam
09:05 - 09:20		Neuropathic pain: treatment with targeted muscle reinnervation	Glen Gaston	
09:20 - 09:30		Management of Neuropathic pain by Pain specialist	Timmy Chan	
09:30 - 09:40		Treatment modalities for neuropathic pain and neuroma by an occupational therapist	Jenna Ng	
09:40 - 09:55		Case Discussion	Margaret Fok	
09:55 - 10:05	BREAK			
10:05 - 10:15	Symposium 2 Ulnar Nerve	Cubital Tunnel Release under WALANT	SC Koo	Angela Ho Athena Au
10:15 - 10:30		Ulnar nerve palsy: Reconstruction of intrinsic function of the hand	PC Ho	
10:30 - 10:45		Ulnar nerve palsy: distal neurotization	Amy Moore	
10:45 - 11:00		Ulnar nerve palsy: what an occupational therapist can help?	Clare Black	
11:00 - 11:15		Case Discussion	Esther Chow	
11:15 - 11:30	Symposium 3 Miscellaneous	Peripheral nerve sheath tumors	Peter Murray	SC Koo Michelle Lee
11:30 - 11:45		Intra-neural ganglion of hand and wrist	Nash Naam	
11:45 - 12:00		Unusual nerve compression syndromes	Mark Rekant	
12:00 - 12:15		Discussion		
12:15 - 13:00	LUNCH			
13:00 - 13:10		Memorial to Dr. Richard Berger	PC Ho	Edmund Yau SC Koo
13:15 - 13:35	JSSH Ambassador paper			
13:35 - 15:25	Local Free Paper Session			
15:25 - 15:35	BREAK			
15:35 - 15:45	Surgical Techniques	ECTR 1-portal technique	Edmund Yau	YK Lau Wesley Ng
15:45 - 15:55		ECTR 2-portals technique	Emily Yip	
15:55 - 16:05		Camitz transfer	Esther Chow	
16:05 - 16:15		FDS 4 opponensplasty	SC Koo	
16:15 - 16:25		Endoscopic cubital tunnel release	Margaret Fok	
16:25 - 16:35		Cubital tunnel release + medial epicondylectomy	SC Koo	
16:35 - 16:50		Discussion		
17:00 - 18:00	AGM			

# ANNUAL CONGRESS PROGRAM

## Day 2 Program 20th March, 2022

Time		Topic	Speaker	Moderator
08:30 - 08:50	Symposium 4 Brachial Plexus injury	Adult brachial plexus injury: an overview	Peter Murray	WL Tse Michael Mak
08:50 - 09:00		Exploration of Brachial Plexus -- tips and tricks	WL Tse	
09:00 - 09:15		Incomplete BPI - role of distal neurotization	Jason Ko (pre-recording)	
09:15 - 09:30		Total BPI - what options do we have?	Dan Zlowtolow	
09:30 - 09:40		Cross C7 neurotization for BPI	Margaret Fok	
09:40 - 09:55		Case Discussion	Michael Mak	
09:55 - 10:00	BREAK			
10:00 - 10:15	Symposium 5 Median Nerve	Carpal Tunnel Release: from open to endoscopic -- what is the current Trend?	Michael Mak	Esther Chow Emily Yip
10:15 - 10:30		Treatment of Severe Carpal Tunnel syndrome with Thenar wasting: Camitz or FDS IV?	Esther Chow	
10:30 - 10:45		Failed carpal tunnel syndrome surgery	Julie Adams	
10:45 - 11:00		High Median nerve palsy: Tendon transfer or distal neurotization?	Amy Moore (Pre-recording)	
11:00 - 11:15		Case discussion	Emily Yip	
11:15 - 11:30	Symposium 6 Radial Nerve	Radial tunnel syndrome: a Fact or a Fiction	Nash Naam	Michelle Lee Sara Tong
11:30 - 11:45		Humeral shaft fracture with radial nerve palsy: when to intervene?	Lau Tak Wing	
11:45 - 12:00		Radial nerve palsy: tendon transfer	Ip Wing Yuk	
12:00 - 12:15		Case discussion	Marvin Chung	
12:15 - 12:20	Closing Remarks			

# ABSTRACTS OF LECTURES

## Treatment modalities for neuropathic pain and neuroma by an occupational therapist

### Jenna NG

Occupational Therapist  
Department of Occupational Therapist  
Pamela Youde Nethersole Eastern Hospital

A brief introduction to neuropathic pain and neuroma will be made with clinical examples. Comparison between neuropathic pain and neuroma will be done to give a clear picture of their relationship within the nervous system. Circle of Pain is then introduced as a framework to explain neuropathic pain and neuroma while windows of treatments under circle of pain will be presented. The talk will cover 8 different treatment modalities for neuropathic pain and neuroma, which include desensitization, sensory re-education, mirror therapy, hand function training, pressure therapy, pain education, chronic pain management group, CBT and work rehabilitation.

## Cubital Tunnel Release under WALANT

### Jeffrey Justin Siu-cheong KOO

Associate consultant  
Department of Orthopaedics & Traumatology, Alice Ho Miu Ling Nethersole Hospital

Cubital tunnel syndrome (CuTS) is the second most common nerve entrapment syndrome result in significant loss of sensation and profound weakness. When conservative treatment failed, surgical treatment ranged from local decompression, decompression with medial epicondylectomy or with decompression with anterior transposition of ulnar nerve were performed.

This talk focus on the use of wide awake local anaesthesia no tourniquet (WALANT) in cubital tunnel release. Several aspects will be touched on including patient safety and feasibility of the procedure itself, peri-operative factors affecting effectiveness and outcome using WALANT in decompression with medial epicondylectomy.

## Ulnar Nerve Palsy: Reconstruction of Intrinsic Function of the Hand

### Pak-cheong HO

Consultant & Chief of Service  
Department of Orthopaedic & Traumatology  
Prince of Wales Hospital  
Clinical Professor (honorary)  
Faculty of Medicine, Chinese University of Hong Kong

Ulnar nerve palsy results in significant loss of sensation and profound weakness, leading to a dysfunctional hand. Typical clinical findings include loss of key pinch, clawing, loss of normal flexion sequence of the digits, loss of the metacarpal arch, and abduction of the small finger. Further deficits in hand/wrist function are seen in high-level ulnar nerve palsy, including loss of ring- and small-finger DIPJ flexion, decreased wrist flexion, and loss of dorsal sensory innervation.

Different patients have differing functional deficits after ulnar nerve palsy, ranging from aesthetic concerns to significant weakness in pinch and grip of up to 85%, loss of dexterity and functional impairment. Presence of neural connection anomaly may also complicate the clinical presentations and affect the functional impact on the patients. Therefore in dealing with sequelae of late ulnar nerve palsy, each patient's needs should be carefully evaluated taking care to address the necessary issues. Timing of surgery should consider etiology and pattern of neurological progression, level of injury, duration post injury, occupational need of patients etc. Successful reconstruction often requires good neurologic, psychological, and soft tissue stability.

Multiple treatment options are available to restore function, and no single method can be applied to every case. There are several categories of surgical intervention for surgeons and patients to consider depending on the goal of treatment.

- 1) Correction of claw hand by static and dynamic means. The choice depends on goal of treatment whether just to improve appearance or to improve power and function, and the availability of the donor motor units.
- 2) Improvement of pinch by augmenting thumb adduction, index finger abduction or both.
- 3) Stabilization of the thumb on IPJ and/ or MPCJ, with bony or soft tissue augmentation or balancing procedures.
- 4) Correcting of little finger abduction deformity (Wartenburg sign)
- 5) Correction of loss of transverse metacarpal arc to improving hand cupping ability

# ABSTRACTS OF LECTURES

- 6) Remotoring long flexor in high ulnar nerve palsy
- 7) Sensory reconstruction for impairment of sensation in the little finger
- 8) Aesthetic improvement on the hand for intrinsic muscle wasting

A systemic review of the outcome of operative management in ulnar nerve palsy was published in 2021, involving 26 studies on 687 patients in the past 70 years. It was found that the best procedure to correct claw hand deformity was the Zancolli Lasso procedure (60.6%) followed by FDS-4 tail technique (31.4%) Best grip improvement could be achieved with Brand's ECRL-4 tails technique. The technique was also associated with the best open hand assessment and mechanism of closing. Last but not the least, pinch improvement was best seen in thumb adductorplasty procedure. An evidence-based management algorithm on the choice of procedures was proposed to deal with late ulnar nerve palsy reconstruction. Author's preference will also be shared and discussed at the presentation.

(1) Schaeffer CV, MaMahon HA et al. Outcomes and Complications of Tendon Transfers to Address Pinch and Grasp Weakness: A Systematic Review of the Operative Management of Ulnar Nerve Paralysis. *Plast Reconstr Surg* 2021; 148: 109-120

## Ulnar nerve palsy what an occupational therapist can help

### Clare BLACK

Occupational Therapist

Sportsperformance Physiotherapy

Accredited Hand Therapist (AHT), Australian Hand Therapy Association (AHTA)

Ulnar nerve palsy is a common injury seen by both therapists and surgeons. There are limited high quality studies regarding conservative management of Cubital tunnel syndrome and Guyon's canal syndrome. Regardless of the paucity of literature there appears to be a role for conservative management for mild to moderate symptoms.

This presentation will focus on the therapists' role in diagnosing ulnar nerve compression syndromes, including differential diagnosis between Cubital tunnel syndrome and Guyon's canal syndrome. Sensory testing, manual muscle testing and the Scratch Collapse Test are all useful tools to help determine an accurate diagnosis.

While the optimal conservative management remains unclear, current evidence suggests that activity modification/education and splinting may be effective. With data lacking, as therapists we need to think outside the box to successfully treat these patients.

## Endoscopic carpal tunnel release (ECTR) I-portal technique

### Edmund Leung-kai YAU

Associate consultant

Department of Orthopaedics & Traumatology, Queen Elizabeth Hospital

This short talk will outline the technique in performing ECTR using the single portal technique developed by John M. Agee and Francis C. King. Ways of minimising complications will also be touched upon.

# ABSTRACTS OF LECTURES

## Endoscopic Carpal Tunnel Release: ECTR 2-portals Technique

**Emily Ka-yan YIP**

*Associate Consultant*

*Department of Orthopaedics and Traumatology, Tuen Mun Hospital, NTWC*

2-portals ECTR technique was first published by Dr James C.Y. Chow in 1989 and subsequently modified by himself and many other surgeons. ECTR is as effective as open CTR with fewer wound complications. Surgeons who perform this operation must know every step of ECTR well, as iatrogenic complications mostly occur because of inadequate knowledge, training or experience.

2-portals ECTR consists of 7 steps with special attention and precautions:

1. LA surgery by WALANT (wide awake local anaesthesia no tourniquet) technique
2. Position of surgeon and patient's hand, preparation of instruments
3. Entry portal incision landmark and its relevant anatomy
4. Correct entry and smooth track of the slotted cannula & obturator just underneath the Transverse Carpal Ligament (TCL)
5. Exit portal precaution to avoid superficial palmar arch and median nerve branches
6. Visualization of TCL with proper knives cutting technique
7. Assurance of complete transection of TCL

Conversion to an open CTR procedure should be executed whenever an anatomic variation or any unclear visualization or technical uncertainty occurs.

## Camitz Procedure

**Esther Ching-san CHOW**

*Consultant, Department of Orthopaedics and Traumatology, United Christian Hospital*

**Introduction:** The Camitz procedure was first described by Helge Georg Botvid Camitz, a Swedish surgeon, in 1929.

This procedure involves the transfer of the palmaris longus tendon with a strip of the palmar aponeurosis to the insertion of abductor pollicis brevis, to restore thumb opposition.

This procedure is usually done in severe carpal tunnel syndrome with wasting of the thenar muscles. Meta-analysis showed that patients achieved 86-100% improvement in overall hand function after undergoing the original Camitz procedure.

**Surgical Technique:** Before operation, the presence of palmaris longus (PL) must be confirmed by opposing the thumb to the little finger with the wrist slightly flexed. The surgery can be performed under general or local anaesthesia.

An incision is extended from the distal palmar crease to 2cm proximal to the distal wrist crease. The incision is slightly ulnar to the thenar crease and should be extended in zig-zag ulnar to the PL at the wrist crease. This is to avoid linear contracture at the wrist joint and avoid injury to the palmar cutaneous branch of the median nerve. Careful dissection between the subcutaneous plane and the palmar aponeurosis is carried out. A 1.5cm to 2cm strip of palmar aponeurosis is elevated, along the 3rd and 4th fingers. The palmar aponeurosis is transected distally, taking care not to damage the underlying neurovascular structures. The strip of palmar aponeurosis is dissected from a distal to proximal direction, separating from the deep structures, until it reaches the palmaris longus tendon. A good excursion of the palmaris longus tendon (at least 2cm) is achieved by releasing the surrounding fibrous tissue around the tendon. The sheet of palmar aponeurosis is rolled into a tubular structure and suture with 3/0 PDS suture. It is wrapped in wet gauze for later transfer. Then the transverse carpal ligament is incised and the carpal tunnel is released. Neurolysis of the median nerve is performed whenever necessary.

A second incision is made over the dorso-radial aspect of the thumb metacarpophalangeal joint. The dorsal cutaneous nerve is carefully identified and protected. A subcutaneous tunnel is made between the thumb wound towards the wrist, along the axis of the abductor pollicis brevis (APB) muscle. The PL tendon is then transferred from the wrist to the thumb. The palmar incision is closed before attachment of the PL. The PL is pulvertaft through the insertion of the APB tendon and the dorso-radial capsule, anchor with 3/0 prolene, then suture back to itself.

The tension of the transfer is adjusted with slight over-tensioned. With the wrist in 30 degrees extension, the thumb abduction should be in maximal. While the wrist is in 30 degrees flexion, the thumb should be able to adduct to the index finger. The thumb wound is then closed and a thumb spica cast is applied, which allow thumb IPJ motion.

# ABSTRACTS OF LECTURES

**Rehabilitation Protocol:** Thumb spica cast for 3 weeks, then thumb spica splint for 1 week, followed by thumb spica splint night time for another 2 weeks.

**Modifications:** Several modifications of the original Camitz transfer have been described, with most focusing on the incorporation and placement of pulleys.

**References:** Foucher, G., Malizos, C., Sammut, D., Marin Braun, F., & Michon, J. (1991). Primary palmaris longus transfer as an opponensplasty in carpal tunnel release: a series of 73 cases. *Journal of Hand Surgery*, 16(1), 56-60.

Rymer, B., & Thomas, P. B. M. (2016). The Camitz transfer and its modifications: a review. *Journal of Hand Surgery (European Volume)*, 41(6), 632-637.

MacDougal, Bruce A. M.D.; Zook, Elvin G. M.D. Review Editor Palmaris Longus Opponensplasty, *Plastic and Reconstructive Surgery*: September 1995 - Volume 96 - Issue 4 - p 982-984

Park I, Kim H, Lee S, Lee J, Jeong C. Opponensplasty using palmaris longus tendon and flexor retinaculum pulley in patients with severe carpal tunnel syndrome. *Arch Orthop Trauma Surg*. 2010, 130: 829-34.

Iwase, M., Matsuura, Y., Kuniyoshi, K., Suzuki, T., Nagashima, K., & Ohtori, S. (2021). Biomechanical evaluation of opponensplasty for low median palsy: a cadaver study. *Journal of Hand Surgery Global Online*, 3(2), 74-80.

## Endoscopic Cubital Tunnel release

### Margaret Woon-man FOK

*Associate consultant*

*Department of Orthopaedics and Traumatology, Queen Mary Hospital*

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Cubital tunnel syndrome is the second most common peripheral nerve entrapment in the upper limb. The classic surgical management is open decompression with anterior transposition. Yet endoscopic decompression with or without anterior transposition is getting more popular in recent years. Special instruments are needed. This talk illustrates the step-by-step procedure in the decompression of the ulnar nerve and its tips and tricks in performing the surgery. It also highlights the contraindications in using the endoscopic techniques and its complications. It is recommended that surgeons to be familiarized with the technique by using cadaveric specimen. It is recommended to do this surgery in relatively thin patients, whom the ulnar nerve can be easily palpated, for the initial few cases.

## Exploration of brachial plexus : tips and tricks

### Wing-lim TSE

*Consultant*

*Department of Orthopaedics and Traumatology, Queen Mary Hospital*

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Surgical exploration of brachial plexus demands clear understanding of the anatomy, especially the essential landmarks, and anticipation of site of pathology that are usually distorted by injuries. Detailed physical examination, electrophysiological studies and analysis of imaging help you to locate the site of pathology and avoid damaging the healthy nerves and critical vascular structures. Patient preparation, including time of surgery, communication with anaesthetist, patient position, intraop electrical stimulation and electrophysiological monitoring are crucial in decision making on neurolysis, neurotization or nerve grafting.

# ABSTRACTS OF LECTURES

## Cross C7 neurotization for BPI

**Margaret Woon-man FOK**

*Associate Consultant*

*Department of Orthopaedics & Traumatology, Prince of Wales Hospital*

Total root avulsion of the brachial plexus remains to be a major reconstructive challenge. There are limited numbers of nerves available for use to restore motor and sensory functions of the affected limb. The use of the contra-lateral C7 (CC7) spinal nerve for brachial plexus root avulsion injury is said to provide a substantial supply of axons resulting in motor and sensory restoration of the paralyzed limb. However, doubt was noted about the functionality of the affected limb. Moreover, there were reports on patients developing wrist drop of their donor limb after the harvest of CC7 nerves.

We report our regional experience, based on a study performed in Chang Gung Memorial Hospital with Professor David Chuang. We studied the functional outcomes of 168 patients with unilateral total brachial plexus avulsion injury, undergoing CC7 spinal nerve transfer. Neither significant nor permanent donor site morbidity was noted. When we analysed the 10 best patients, no significant difference in their demographics was noted when compared with the remaining group. 8 out of 10 patients underwent more than one surgery, which was significantly more than the remaining patients. All patients achieved an elbow flexion of M4 and a finger flexion of at least M2. They all had protective finger sensation. They were able to use their affected limbs in assisting daily activities.

CC7 is a viable treatment option for patients with total brachial plexus avulsion injuries. Patients who are young and have high education status and motivation appear to achieve better functional results.

## Carpal Tunnel Release: from open to endoscopic -- what is the current Trend?

**Michael Chu-kay MAK**

*Associate Consultant*

*Department of Orthopaedics & Traumatology, Prince of Wales Hospital*

Carpal tunnel release is the most commonly performed hand surgery procedure, being first described 90 years ago. Since then, many different techniques have been developed in attempting to reduce surgical complications, especially with respect to scar pain which is thought to be related to its size and location. This talk will describe the open and two-portal endoscopic techniques, the indications of the open technique, when conversion to open is required, their respective efficacies, and their complications in relation to carpal tunnel anatomy.

## Treatment for severe carpal tunnel syndrome with thenar wasting: what is the best option?

### Camitz vs. ECTR + FDS IV transfer

**Esther Ching-san CHOW**

*Consultant, Department of Orthopaedics & Traumatology, United Christian Hospital*

Patients with severe carpal tunnel syndrome and thenar wasting needed treatment to restore the thumb opposition function. Traditionally, the use of camitz procedure showed good functional outcome and meta-analysis showed that patients achieved 86-100% improvement in overall hand function after undergoing the original Camitz procedure. Nowadays, more patients prefer the use of minimal invasive surgery. With the advancement in endoscopic carpal tunnel release (ECTR), it has become a reliable and effective procedure, even for severe carpal tunnel syndrome, with advantages of less pillar pain, less scar pain and earlier return to work.

The use of ECTR and Flexor digitorum superficialis of the ring finger (FDS 4) opponensplasty seems to be a good alternative to the traditional camitz procedure with open carpal tunnel release.

The Aim of this study is the compare the outcomes of the 2 procedures.

In conclusion, it has been proved that the minimally invasive treatment option (ECTR + FDS 4 opponensplasty) for patients with severe carpal tunnel syndrome showed an equally effective results compare with the traditional camitz transfer, with earlier restoration of thumb opposition motion and better achievement in pulp pinch power.

# ABSTRACTS OF LECTURES

## Radial nerve palsy: tendon transfer

### Wing-yuk IP

*Clinical Associate Professor*

*Department of Orthopaedics & Traumatology, LKS Faculty of Medicine, The University of Hong Kong*

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Chronic radial nerve palsy results in weakness of extensor compartments. High radial nerve palsy at axillary level is less frequently occurred. Most radial nerve palsy are at or below level of humeral level. When radial nerve reconstruction is not possible when there is motor end plate degeneration, motor reconstruction can be done to improve overall upper limb function.

Upper motor and sensory assessments should be done to plan the reconstruction. Available motors that have at least grade 4 motor power are documented. The important motions to restore are wrist extension, finger and thumb extension. Hand opening will be restored and long flexors can work at best sarcomere length for optimal force generation.

The most commonly used tendon transfers are transferring median nerve dispensable muscles to radial nerve supplied paralyzed muscles. Pronator teres can be transferred to the central wrist extensor, ECRB. A wrist flexor, FCR can be transferred to EDC. This transfer is synergistic and rehabilitation is less demanding. FCU is left in situ for wrist flexion and it works as wrist stabilizer during hand usage. Palmaris longus, a weak wrist flexor, can be transferred to EPL and this transfer is also synergistic. When there is combined median nerve or ulnar nerve supplied muscle deficit, the plan of tendon transfer depends on the dispensable motors available.

Sensory deficit is usually not a functional issue, and sensory restoration is usually not essential.

Combined neurotization by using proximal radial nerve stump to obtain transferable muscle, together with traditional tendon transfer is a possible approach to manage chronic radial nerve palsy.

# ABSTRACT OF FREE PAPERS

## Budding Well: A Fun and Sharing-Based Rehabilitation Program Through Music and Arts for Children and Teenagers with Extremity Anomalies

Alice Hiu-yee CHEUNG

*Department of Occupational Therapy, Prince of Wales Hospital, Hong Kong*

**Introduction:** Leisure provides unique meanings to each individual person. This can be a sense of freedom, relaxation, channel of self-expression and self-exploration and a platform of social engagement. Children with physical disabilities are less likely to access and develop their leisure activities. This may be due to the overall impaired hand function, lack of self-esteem, lack of chance of exposure or lack of expertise of trainers. "Budding Well" is a non-profit making rehabilitation service program for children and teenagers with extremity anomalies through interesting activities such as music and arts. The program comprises of a team of orthopedic hand surgeons, occupational therapists, physiotherapists and social workers.

**Methods and participants:** The program was started in 2016 until present. A review of the service outcomes was done in the third year. Aged six to eighteen years with different kinds and degrees of limb dysfunctions were invited to the program. The course consisted of 10 learning classes on playing harmonica (music) and painting (arts). Functional assessments [Bruininks-Oseretsky-Test-of-Motor-Proficiency second edition (BOT-2) and Grip-and-pinch strength] and psychosocial centric questionnaires [Lyubomirsky and Lepper's Subjective Happiness Scale (SHS), Well-Being Index (WHO-5), and Culture-Free Self-Esteem Inventory-2 (CFESI-2) Form A] were performed and completed at the first and last (10th) class. Program evaluation questionnaire was filled at the last class to understand the subjective feedback on the course content and hand function.

**Results:** Thirty-five participants (male = 20, female = 15) of mean age 8.65 joined the program. Functional assessments and psychosocial centric questionnaire outcomes except CFESI-2 did not show any statistical difference. Age sensitivity testing in CFESI-2 Social domain score showed the best result when cut-off age was at 10.5 ( $p = 0.04$ ) and this cut-off value was further proved by receiver operating characteristic (ROC) analysis ( $p < 0.01$ ). On subjective evaluation, parents noticed a significant improvement in the hand function of their children ( $p = 0.01$ ).

**Conclusions:** It was proved that children and teenagers with different levels of physical disabilities can benefit from our program consisting of music and art interest class.

## Treatment of Neuropathic Pain Using Targeted Muscle Reinnervation: Local Experience

Margaret Woon-man FOK, Raymond YAU, Dennis YEE, Ka-Ho NG, Ying-lee LAM

*Department of Orthopaedics and Traumatology, Queen Mary Hospital, The University of Hong Kong, Hong Kong*

The use of targeted muscle reinnervation (TMR) in the management of neuropathic pain is becoming popular in the United States. Routine performance of TMR is recommended for patients undergoing amputation in order to minimize the development of phantom pain and neuroma. Yet this is a relatively new concept in Asia Pacific region. We report our local experience of using TMR in the management of neuropathic pain

Between 2019 to 2021, we have performed TMR on 11 patients with 13 limbs. The age ranged from 12-73 years old. 5 patients suffered from tumor in their limbs requiring amputation. 3 patients (with 5 limbs in total) had their limb amputated due to vascular insufficiency and 2 patients lost their limbs due to accident. One patient suffered from significant cutaneous neuroma after a forearm fracture.

7 patients (with 9 limbs) underwent TMR at the time of limb amputation while 4 patients underwent delayed TMR due to persistent neuropathic / phantom pain.

For the 7 patients with acute TMR, at an average follow up of 20 months, 5 patients were pain free. The remaining 2 patients only required low dose of analgesic on a daily basis.

For the 4 patients who underwent delayed TMR, marked improvement in neuropathic pain was noted after 6 months of surgery. There was a marked decreased use of analgesic, together with an improvement in mental and physical status.

Our early result supports that TMR is a promising modality in the management of neuropathic pain.

# ABSTRACT OF FREE PAPERS

## Gluteus maximus perforator-based advancement flap for sacral sore coverage: 10-year experience

Marvin Man-ting CHUNG, Wing-yuk IP

Department of Orthopaedics & Traumatology, Queen Mary Hospital, Hong Kong

**Background:** Pressure ulcers over sacral region have been associated with high complication rate due to multiple comorbidities in these patients. Aim of this study is to review the outcomes of gluteus maximus perforator-based advancement flap for sacral sore coverage and to determine factors associated with poor outcomes.

**Method:** Patients who underwent gluteus maximus advancement flap for sacral sore coverage from 2012 to 2021 in a single centre were reviewed retrospectively. Patient characteristics, peri-operative parameters and outcomes including healing, recurrence, complications requiring re-operation and 1-year mortality were analyzed.

**Results:** A total of 30 gluteus maximus advancement flap operations were performed in 27 patients (22 male, 5 female). Average age was 54.9 +/- 16.3 years. Mean follow-up was 42.8 months. 24 (80%) are fasciocutaneous flaps and 6 (20%) are myocutaneous flaps. 22 sores (73.3%) healed after flap coverage. Most common complications were wound dehiscence (33.3%) and superficial infection (6.7%). All flaps survived without necrosis. Smokers were more likely to have complications requiring re-operation ( $p=0.019$ ). Low pre-operative albumin level was found to be associated with non-healing of sore ( $p=0.009$ ) and higher 1-year mortality ( $p<0.001$ ). Myocutaneous flaps had higher amount of blood loss ( $p=0.020$ ) compared to fasciocutaneous flaps, but no difference in healing, recurrence and complication rate was found.

**Conclusion:** Gluteus maximus advancement flaps, both fasciocutaneous and myocutaneous, were safe options for sacral sore coverage. Smokers and patients with low pre-operative albumin level were found to be associated with poorer outcomes.

## Ultrasonographic Measurements for the diagnosis of Cubital Tunnel Syndrome: A study in the Hong Kong Chinese population

Pui-man CHUNG, Esther Ching-san CHOW

Department of Orthopaedics and Traumatology, United Christian Hospital, Hong Kong

**Introduction:** Cubital tunnel syndrome (CuTS) is the 2nd most common compressive neuropathy in the upper limb, with enlargement of the ulnar nerve as a common ultrasound finding. This study aims to compare the size of the ulnar nerve between patients with CuTS and control subjects, to derive the cut-off size for diagnosis, and to validate the use of ultrasound as an adjunct in the diagnosis of CuTS.

**Materials and methods:** 19 elbows with clinical and neurophysiological confirmed CuTS, and 30 normal elbows were included in this study. The ulnar nerve cross-sectional area (CSA) was measured at the medial epicondyle (ME) in elbow flexion and extension, 2cm and 5cm distal to the medial epicondyle, 2cm and 5cm proximal to the medial epicondyle. Statistical analysis was performed using SPSS v.26.

**Result:** There were statistical differences between the mean CSA between the CuTS group vs control group at ME flexion (0.198cm<sup>2</sup> vs. 0.072cm<sup>2</sup>,  $p=0.002$ ); at ME extension (0.203cm<sup>2</sup> vs. 0.074cm<sup>2</sup>,  $p<0.001$ ); at 2cm proximal to ME (0.107cm<sup>2</sup> vs. 0.059cm<sup>2</sup>,  $p<0.001$ ) and maximal CSA (0.216cm<sup>2</sup> vs 0.079cm<sup>2</sup>,  $p=0.002$ ). The derived cut-off value of CSA for CuTS at ME flexion, ME extension and maximal CSA were 0.105cm<sup>2</sup>, 0.115cm<sup>2</sup>, and 0.155cm<sup>2</sup> respectively. The Pearson's correlation coefficient between the CSA and the across elbow nerve conduction velocity was -7.38 at ME flexion, -7.03 at ME extension and -7.41 at maximal CSA.

**Conclusion:** Ultrasonographic measurements can be used as an adjunct for the diagnosis of CuTS with high accuracy and patient safety.

# ABSTRACT OF FREE PAPERS

## A Case series on the Outcomes of Endoscopic-assisted Cubital Tunnel Release

Gabriel LEUNG, Margaret Woon-man FOK, Chi-fat CHAN, Darin LAI

*Department of Orthopaedics and Traumatology, The University of Hong Kong, Queen Mary Hospital, Hong Kong*

Cubital tunnel syndrome is a common and prevalent cause of ulnar nerve compressive neuropathy. Conventionally, cubital tunnel release is performed by open decompression and concomitant anterior transposition with potentially significant wound comorbidities. Introduction of endoscopic guidance for cubital tunnel release reduces wound-related complications. This study thus reviewed the outcome of endoscopy-assisted cubital tunnel release in a tertiary referral centre from year 2017 to 2021.

Subjects were sequentially recruited to the study. Pre-operative neurophysiological study was performed to ascertain diagnosis of cubital tunnel syndrome. All patients have had at least 6 months post-operative follow-up. Subjective assessment included Numerical Rating Scale (NRS) and Quick Disability of Hand and Shoulder outcome measure (QuickDASH). Objective assessment included clinical signs, motor modality assessment with manual muscle testing (MMT), power grip strength, lateral pinch strength, and sensory modality assessment with monofilament test.

64 subjects were recruited (79.6% male). Mean age of the subject population was 65.4 years. Majority of subjects (45%) was found to have severe cubital tunnel syndrome. 56 subjects had endoscopic decompression in situ while 8 subjects underwent endoscopic decompression with anterior transposition. At 6 months follow up, majority of subjects reported improvement in symptoms with objective assessment showing improvement in grip strength, muscle power and sensation. 3 subjects were noted to have postoperative haematoma which resolved by conservative means. No wound complication, medial antebrachial cutaneous neuropraxia or recurrence was noted.

Our results support that endoscopic assisted cubital tunnel release is a viable option in the management of cubital tunnel syndrome.

## Anaphylactic reactions after surgical excision of upper limb subcutaneous nodules with worm infestation in HK- 2 case reports

Marianne Man-yan LAM

*Private Orthopaedic Surgeon*

**Introductions:** Excision of subcutaneous nodules on limbs are usually carried out casually by orthopaedics trainees in most cases under local anaesthesia and in most casual clinic settings.

**Methods:** Demographic data of these 2 patients and events leading to the excision of 2 subcutaneous nodules which turned out to be cysts compressing worms were discussed. When tourniquet was off, both patients experienced symptoms and signs of hypotension, GI ischemic symptoms, urticaria and dizziness. One needed ICU support.

**Results:** With knowledge to properly prepare in before excising these nodules, patients experienced less traumatic recovery period in the recovery room and more comprehensive treatment can be provided to deal with possible systemic involvement.

**Conclusions:** Meticulous search of preoperative diagnosis of nature of subcutaneous nodules and with proper and suitable preparation can prepare surgeons to avoid unnecessary stormy events in excision of subcutaneous nodules which can be worm infestation.

# ABSTRACT OF FREE PAPERS

## Properly addressing the volar lunate facet rim fragment in distal radius fracture can significantly minimized the complication rate and improve the outcome

Jeffrey Justin Siu-cheong KOO<sup>1</sup>, Wai-wang CHAU<sup>2</sup>, Pak-cheong HO<sup>3</sup>

<sup>1</sup>Department of Orthopaedics and Traumatology, Alice Ho Miu Ling Nethersole Hospital, Hong Kong

<sup>2</sup>Department of Orthopaedics & Traumatology, Chinese University of Hong Kong, Hong Kong

<sup>3</sup>Department of Orthopaedics and Traumatology, Prince of Wales Hospital, Hong Kong

**Introduction:** Distal radius fracture with volar lunate facet involvement is challenging to treat as volar carpal subluxation can occur if the volar lunate facet rim fragment is not properly addressed. This study aims to review clinical and radiological outcome after surgical treatment for distal radius volar lunate facet rim fracture.

**Materials and methods:** Between October, 2018 to November, 2020, 13 wrists in 12 patients (Average age: 47.8, range 18- 71) who had distal radius volar lunate facet rim fracture were recruited into the retrospective study. Open reduction and internal fixation using specially designed volar distal radius locking plates were performed in all cases with volar rim fracture fragment length less than 10mm. Clinical and radiological outcomes were evaluated.

**Results:** There were six B3 fractures and three C2 fractures and four C3 fractures. The mean follow up time was 14.5 months (range 6-29). We observed improvement in wrist range of motion except flexion. Grip strength could achieve 94.2% of contralateral side. Mean Modified Mayo Wrist score and mean Quick DASH score were 80.4 and 6.72 respectively. There was no fixation loss of volar lunate facet rim fragment and no volar carpal subluxation. There was no flexor tendon irritation oriatrogenic tendon rupture in our patients. Only 1 symptom free patient had implant removal because of his own request.

**Conclusions:** When treating distal radius fracture with volar rim fragment length less than 10mm by special designed volar rim hook plate, risk of reduction loss and subsequent disabling volar carpal subluxation can be minimized.

## Relative motion flexion splint can improve the proximal interphalangeal joint extension range in finger proximal phalangeal fracture

Charles Cheuk-sang LAM<sup>2</sup>, Jeffrey Justin Siu-cheong KOO<sup>1</sup>, Adrian Kam-yiu LEUNG<sup>2</sup>, Wai-wang CHAU<sup>3</sup>, Pak-cheong HO<sup>4</sup> and Louie Frances Tsui-man<sup>2</sup>

<sup>1</sup>Department of Orthopaedics and Traumatology, Alice Ho Miu Ling Nethersole Hospital, Hong Kong

<sup>2</sup>Occupational Therapy Department, Alice Ho Miu Ling Nethersole Hospital, Hong Kong

<sup>3</sup>Department of Orthopaedics and Traumatology, Chinese University of Hong Kong, Hong Kong

<sup>4</sup>Department of Orthopaedics and Traumatology, Prince of Wales Hospital, Hong Kong

**Objective:** Proximal interphalangeal joint (PIPJ) extension lag is a common complication after treatment for proximal phalanx fracture. This is the first study comparing the clinical outcome of finger phalangeal fracture treated by open reduction and internal fixation with or without using relative motion splint.

**Materials and methods:** A retrospective cohort study was performed from April 2016 to November 2020 in 13 fingers of 8 patients using the relative motion flexion splint (Splint group) and 10 fingers of 9 patients without using it (non-Splint group). PIPJ lag and TAM were measured for each finger joint from the 3rd, 6th week, and then the 3rd and 6th months. Grip strength was measured in the 3rd and 6th months. To control for confounding factors, further analyses were carried out using age at 50 years as a cut-off value, hand dominance, injury-on-duty (IOD), and plating (lateral or dorsal).

**Results:** Patients were followed for a mean of 18.8 months (range 6-52 months). In the Splint group, mean extension lag had persistently improved from the 6th week (15.0vs.25.0,  $p=0.02$ ) to the latest follow-up (9.6vs.20.5,  $p=0.03$ ). Statistical significance still existed after controlling for age (cut-off=50). PIPJ extension deficit was significantly improved in the Splint group (9.6vs.20.5,  $p=0.03$ ) and after controlling for age (1.7vs.20.0,  $p<0.01$ ). Hand dominance ( $p=0.032$ ), lateral plating ( $p=0.03$ ) and non-IOD ( $p<0.01$ ) were also important factors improving PIPJ lag, TAM, grip strength, and ROM at the latest visit.

**Conclusions:** Relative motion flexion splint is a potential solution in finger proximal phalanx fracture PIPJ extension lag complication.

# ABSTRACT OF FREE PAPERS

## Functional outcome of heterodigital neurovascular island flap for reconstruction of finger and thumb defects

David Ka-wai CHENG, Esther Ching-san CHOW

Department of Orthopedics and Traumatology, United Christian Hospital, Hong Kong

**Objective:** Soft tissue defects in fingers and thumbs can be challenging. It is crucial to achieve a stable, mobile and sensate digits with adequate soft tissue coverage. The purpose of this study was to investigate the functional outcome of heterodigital neurovascular island flap in the reconstruction of finger and thumb defects.

**Methods:** From 2014 to 2020, heterodigital neurovascular flap was performed in 9 patients with thumb or finger defects. The patient history, surgical details, functional outcomes and complications were retrieved from case notes.

**Result:** There were 8 male and 1 female patients. The causes of wound defects include 6 trauma, 2 infection and 1 chemical burn. The affected sites included four thumbs, one index finger, two middle fingers, one ring finger and one little finger. Donor sites included six middle fingers and three ring fingers. The average flap size was 6 cm<sup>2</sup>. Complete flap survival was achieved in all cases. The sensation of flap was satisfactory with average monofilament score of 3.75. The sensation of donor fingers has been preserved with equal average monofilament score of 3.51 on both radial and ulnar side. There were 2 donor fingers with fixed flexion contracture at the proximal interphalangeal joint of 15 degrees. Average patient satisfaction for Brief Michigan Hand Outcomes Questionnaire is 67.4. Average follow up is 51.2 months with longest duration up to 85 months.

**Conclusions:** Heterodigital island flap is a single-stage, reliable flap which is able to produce good cosmetic result, restores sensibility, and enables early mobilization of the hand.

## Use of Modified Masquelet technique for staged reconstruction in hand injury and infection: A case series

Douglas See-lok HO, Esther Ching-san CHOW

Department of Orthopaedics & Traumatology, United Christian Hospital, Hong Kong

**Introduction:** Management and reconstruction of bone loss due to injury and infection in the hand region is always a challenge. The use of modified Masquelet technique to induce a pseudo-membrane can enhance bone graft survival and provide a neo-capsule for joint reconstruction. Nonetheless, there are limited published studies regarding this topic. The aim of this study is to review the results of such technique.

**Materials and Methods:** From 2018 to 2020, cases with hand injury or infection associated with bone defects that were treated by modified Masquelet technique were reviewed. The clinical details were retrieved from case notes. The objective outcomes including range of motion and grip strength were assessed. The subjective outcomes were assessed by pain score and Michigan hand questionnaire. The radiological outcomes were assessed.

**Results:** Four cases received modified Masquelet technique for staged reconstruction were reviewed. The location of bone defects include: distal phalanx (n=2); proximal phalanx (n=1) and metacarpal (n=1). The bone defect volume range from 100 to 400mm<sup>3</sup>. All cases achieved bone union with average bone graft healing at 11.33 weeks. There was no bone graft resorption. There was no case of recurrent infection. The functional outcome was good to excellent for all cases.

**Discussion and conclusion:** The modified Masquelet technique is an innovative option for treating bone defects in hand. Yet, it is a simple and feasible option. It could provide immediate stability for facilitating early mobilization, as well as achieving high success bony union rate and good functional outcome in the long-term.

# ABSTRACT OF FREE PAPERS

## Lymphaticovenular Anastomosis (LVA) for Treatment of Lymphedema by Orthopaedic Surgeons

Emily Ka-yan YIP

Department of Orthopaedics and Traumatology, Pok Oi Hospital, NTWC, Hong Kong

**Background:** Lymphedema is a progressive debilitating condition with limb edema, fibrosis, disfiguring, predisposing infection and even malignancies. Surgical treatment for lymphedema has evolved tremendously in recent decades, from ablative surgery to options of reconstructive surgeries such as lymphaticovenular anastomosis (LVA), vascularized lymph node or lymphatic tissue transfer.

LVA is a bypass operation at which the surgeons perform precise anastomoses between lymphatic channels and venules at subcutaneous level using supermicrosurgical techniques. Multiple LVA performed at the affected limb facilitate shunting of lymphatic fluid into the venous system.

**Methods:** This is a case series of LVA surgery performed by Orthopaedic surgeons in a regional hospital in NT West Cluster. Patients' demographics, selection criteria, pre-operative assessment, surgical procedures and clinical outcomes are presented.

**Results:** 3 patients with secondary lymphedema have received LVA surgery in 2021. All patients have shown improvement in limb circumference, volume reduction and impedance. Subjective clinical improvement by patients are also reported.

**Conclusion:** LVA seems to be beneficial to patients with secondary lymphedema, especially in the early stages of limb lymphedema. This can be offered as the treatment of choice in selected patients.

## Clinical and radiological outcome of osteoscopic assisted treatment of enchondroma in hand with artificial bone substitute or bone graft: A 7-year case series

Bernard Wai-tat YUNG<sup>1</sup>, Jeffrey Justin Siu-cheong KOO<sup>1</sup>, Michael Chu-kay MAK<sup>2</sup>, Fiona Wai-ping YU<sup>2</sup>, Wing-lim TSE<sup>2</sup>, Pak-cheong HO<sup>2</sup>

<sup>1</sup>Department of Orthopaedics & Traumatology, Alice Ho Miu Ling Nethersole Hospital, Hong Kong

<sup>2</sup>Department of Orthopaedics & Traumatology, Prince of Wales Hospital, The Chinese University of Hong Kong, Hong Kong

**Background:** The addition of osteoscopy to the surgery can allow direct visualisation of the bone cavity during and after curettage of the tumour without excessive damage to the bone cortex, which could potentially lead to a better clearance of tumour tissue and a lower rate of recurrence.

**Methods:** The study data were retrieved retrospectively from the Clinical Management System of Hospital Authority.

Eleven patients who received surgery from December 2013 to November 2020 in PWH or AHNH were included. The duration of follow-up ranged from 3 to 65 months, with a mean of 20.9 months.

**Results:** The Total Active Motion (TAM) of patients ranged from 220 to 280, with a mean of 257. The percentage of TAM compared to the contralateral side ranged from 81.5% to 100%, with a mean of 94.4%. The Percentage of grip strength compared with the contralateral side ranged from 62% to 100%, with a mean of 86.2%. The QuickDASH score of patients ranged from 0 to 46.9, with a mean of 7.7. For the wound aesthetic rating, nine out of eleven patients reported as excellent.

For the radiological outcome, the post-operative X-ray of all patients showed bone filling defect <3mm, which belonged to Group I in the evaluation system proposed by Tordai et al (1990). None of the patients showed any radiological signs of recurrence.

**Conclusion:** Our study showed good functional and radiological outcome in patients treated with this minimal invasive technique.

# ABSTRACT OF FREE PAPERS

## Arthroscopic Partial Trapeziectomy with Suture Button Suspensionplasty (Mini-TightRope) for thumb carpometacarpal osteoarthritis: a retrospective review of intermediate term outcomes

Karen Ka-man NG<sup>1</sup>, Lawrence Chun-man LAU<sup>2</sup>, Jeffrey Justin Siu-cheong KOO<sup>1</sup>, Wing-lim TSE<sup>2</sup>, Michael Chu-kay MAK<sup>2</sup>, Pak-cheong HO<sup>2</sup>, Fiona Wai-ping YU<sup>3</sup>

<sup>1</sup> Department of Orthopaedics and Traumatology, Alice Ho Miu Ling Nethersole Hospital, Hong Kong

<sup>2</sup> Department of Orthopaedics and Traumatology, Prince of Wales Hospital, Hong Kong

<sup>3</sup> Department of Orthopaedics and Traumatology, The Chinese University of Hong Kong, Hong Kong

**Introduction:** Arthroscopic partial trapeziectomy with suture button suspensionplasty (Mini-TightRope) is an emerging minimally invasive option to manage thumb carpometacarpal osteoarthritis (CMCJ OA). In this study we describe its intermediate term outcomes in a series of Hong Kong patients.

**Methods:** Patients with symptomatic thumb CMCJ OA who failed conservative management and subsequently operated from 2015 to 2019 were reviewed. Functional outcomes, including VAS pain score, grip strength, pinch strength, QuickDASH score and radiological subsidence were evaluated.

**Results:** 23 operations were performed in 8 male and 13 female patients, with median age at 64 years old (range 47-75). 52.2% involved the dominant hand. Median symptom duration was 34.5 months. Majority were of Eaton stage III (II: 4, III: 18, IV: 1). Arthroscopic partial trapeziectomy of 3-4mm was performed at the IR and IU portals. Mini-TightRope was inserted from base of 1st metacarpal to proximal third of 2nd metacarpal. Mean operation time was 141.3 minutes. Median follow-up duration was 39.6 months. All patients had no resting pain post-operatively. Mean improvement in grip strength, pinch strength and QuickDASH score were 57.5%, 66.3% and 54.5% respectively. There was no statistically significant subsidence of the first metacarpal bone one year after operation. Two complications occurred, one required operation for nerve repair and another one required removal of endobutton due to skin impingement.

**Conclusion:** Arthroscopic partial trapeziectomy with Mini-TightRope resulted in intermediate term improvement in functional outcomes and served as a reliable treatment for thumb CMCJ OA.

## Use of multiplanar reconstruction CT in assessment of wrist parameters and DRUJ morphology in Chinese

Chun-kit CHAN, Esther Ching-san CHOW

Department of Orthopaedics & Traumatology, United Christian Hospital, Hong Kong

**Introduction:** Radiological parameters of the wrist and the distal radioulnar joint (DRUJ) morphology are essential in understanding wrist anatomy and pathology. The aim of this study is to define the normal radiological parameters of the wrist and the DRUJ morphology by using multiplanar reconstruction (MPR) computed tomography (CT) images.

**Materials & methods:** 39 Chinese patients (42 wrists) with CT scan of the wrists taken from July 2018 to Dec 2021 were recruited for the study. MPR CT images were processed by OsiriX MD software. Radial height, radial inclination, palmar tilt, ulnar variance, DRUJ angle, DRUJ morphology (coronal and transverse) were assessed. The DRUJ morphology was assessed by 2 independent observers. The intra-observer and inter-observer reliability were analyzed with SPSS v.26.

**Results:** The wrist parameters results include: radial height = 10.7 mm (SD  $\pm$ 2.2 mm), radial inclination = 23.7° (SD  $\pm$ 3.0°), palmar tilt = 13.5° (SD  $\pm$ 3.8°), ulnar variance = -0.66 mm (SD  $\pm$ 1.69 mm) and DRUJ angle = 6.4° (SD  $\pm$ 10.3°). The DRUJ coronal morphology was 55% type I, 40% type II and 5% type III. The DRUJ transverse morphology was 50% C-shape; 26% Flat-shape; 14% Ski-slope-shape and 10% S-shape. The intra-observer reliabilities were 0.92 and 0.85, while the inter-observer reliability was 0.84.

**Conclusion:** This is the first study demonstrating the use of MPR CT in assessment of radiological parameters of the wrist and DRUJ morphology in the Chinese population. This information is important in the evaluation and treatment of wrist pathologies.

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Stryker  
*(in alphabetical order)*

# ACCREDITED CME/ CNE/ CPD POINTS BY VARIOUS COLLEGES

## Hong Kong College of Orthopaedic Surgeons

CME Cat A: 8 points  
CME Rehab: 3 points  
Training points: 8 points

## Nursing Council of Hong Kong

CNE: 12 points

## Hong Kong Occupational Therapy Association

CPD: pending

## Hong Kong Physiotherapy Association

CPD: pending

# *MEMORIAL NOTE OF RICHARD A. BERGER*

**Richard A. Berger, MD, PhD**

(1954-2022)



“Goodbye our great mentor, giant in history of hand surgery, who left us by leaving wisdom in research, experience in patient care, and passion in teaching”

The Hong Kong Society for Surgery of the Hand



# Xpert Wrist 2.4



1. Volar plates (**Distal radius and volar solutions**) and Fragment specific plates (**Dorsal plates, radial column plates, rim plates, hook plates, and distal ulna plates**) and **Osteotomy plates.**
2. Dia. 2.4mm single screw diameter for locking screw and cortex screw
3. Low profile and Asian anatomical data fitting most Asian patients size and shapes

**Option 1**

A1 A2 A3 B1

**Option 2**

**Option 3**

**Suitable for A1 to C3 AO classification solutions**

B2 B3 C1 C2 C3

DETUL + D1-RCP D1-TWS1 D1-W31 D1-W51 D1-W52

D1-W51 D1-TWS1 + DETUL D1-W51 D1-TWS1 + D1-W52

D1-RCP + D1-W52 D1-W51 D1-TWS1 + D1-W51



## Hand Plating System (HPS)

- 1) One System, versatile solution for complex fractures
- 2) Includes 53 different plates, 5 screw designs (**1.2mm module, 1.6mm module, 2.0mm module, 2.4mm module and cannulated module**) (**cannulated module included Dia 2.0, 2.4 and 3.0mm, 3 k-wire sizes**)
- 3) HPS highly polished & low profile plates. Angled Locking technology and Multiple compression options

**plates and screws**

Within the variety of plates, hps provides fracture specific solutions, including the patented subcondylar plate. The subcondylar plate has a 12 degree bend to fixate condylar fractures without obstructing joint ligaments.

**highlights**

- unique and stable angled locking technology\*
- low profile plate and screw interface
- up to 4 different screw options in every circular hole
- cannulated compression screw choices

hps is the first system to include a cannulated module and the opportunity to use a cannulated headed screw in a hand plate for precise stable screw positioning.

**screws and k-wires**

**solid core**

- fully threaded variable angle locking
- fully threaded non-locking
- partially threaded lag, non-locking
- low profile heads
- excellent bone purchase
- self retaining on driver stems

**cannulated compression**

- headless lag with narrow tracking director
- headed lag with low profile heads that fit in the plates

**k-wires**

- .020" single trocar
- .035" single trocar, double trocar, partially threaded
- .045" single trocar, double trocar

**53 plates**

- 53 plates in multiple size options
- anatomically pre-contoured and low profile
- polished surface with rounded edges
- dual compression holes
- unique stable locking technology
- accepts locking and non-locking screws in circular holes

# Mepilex® Border Flex family

## Dressings for all stages of healing

### Dressings for many wound types and locations

#### Diabetic foot ulcer



#### Leg ulcer



#### Pressure injuries



#### Skin tears



#### Trauma



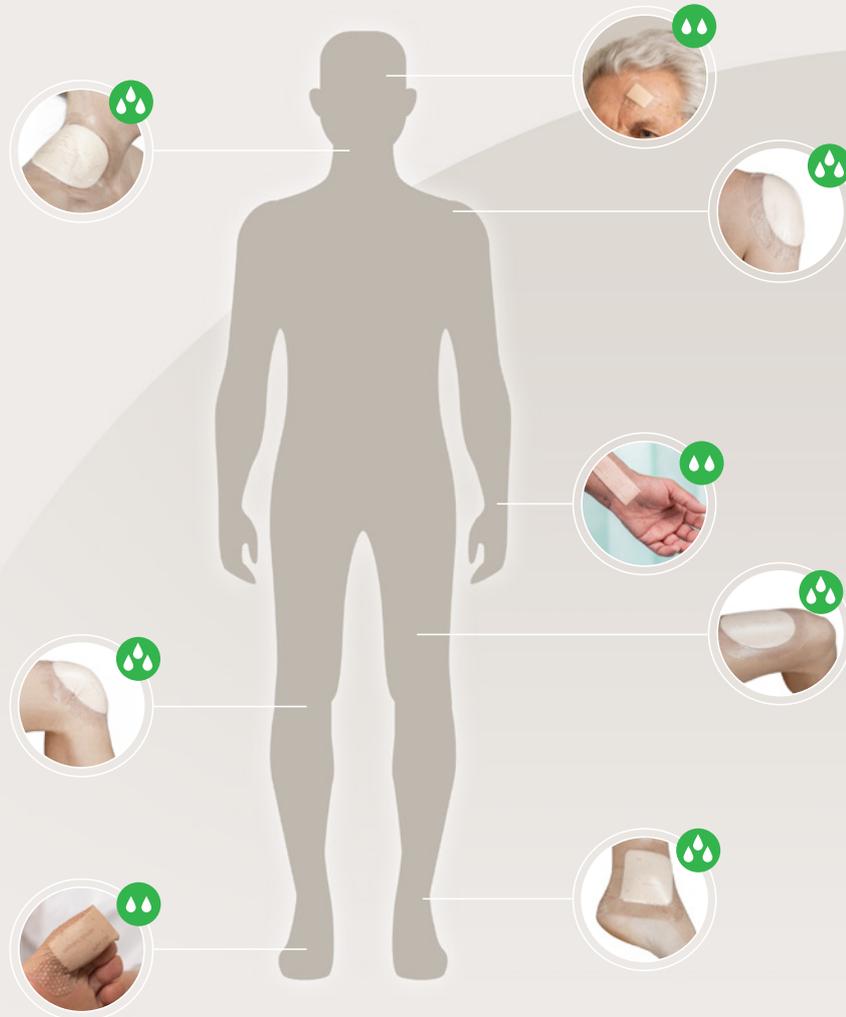
#### Intact skin



Mepilex® Border Flex and Oval dressings may also be used as part of a prophylactic therapy to help prevent skin damage, e.g. pressure injuries.

Wide range of exuding wounds

Non- to moderately exuding wounds



### How the Exudate Progress Monitor works

Leaving wounds undisturbed may help healing. The Exudate Progress Monitor gives you the confidence to leave the dressing in place for longer<sup>1</sup>.



The ExudateProgress Monitor is a grid of equidistant dots.



e.g. 4 x 4cm  
As exudate spreads you can record a dot count that reflects exudate volume in the dressing.



e.g. 10 x 14cm  
Consider dressing change when exudate is approaching the borders of the dressing\*.

\*Wound inspection and dressing change frequencies are driven by clinical decision and should be at the discretion of the clinician.

### Mepilex® Border Flex



Order number*	Size [cm]	Wound pad size [cm]	Pack counts
595200	7.5 x 7.5	4.5 x 4.5	5/50
595300	10 x 10	6.5 x 6.5	5/50
595000	12.5 x 12.5	8.5 x 8.5	5/50
595400	15 x 15	11 x 11	5/50
595600	15 x 20	11 x 16	5/50

### Mepilex® Border Flex Oval



Order number*	Size [cm]	Wound pad size [sq cm]	Pack counts
583500	7.8 x 10	15	5/50
583300	13 x 16	85	5/35
583400	15 x 19	134	5/45

### Mepilex® Border Flex Lite



Order number*	Size [cm]	Wound pad size [cm]	Pack counts
581011	4 x 5	2 x 3	10/70
581100	5 x 12.5	2.5 x 8.5	5/65
581200	7.5 x 7.5	4.5 x 4.5	5/70
581300	10 x 10	6.5 x 6.5	5/50
581500	15 x 15	11 x 11	5/50

**Note:** Please contact your local Mölnlycke representative for information about order numbers available in your country.

**Reference:** 1. Mölnlycke Health Care. Mepilex® Border Flex – Estimate of spreading area using dot pattern on backing film. Report no. PD-528872. Data on file.