Contents

Welcome message

Dear TSSH members and distinguished guests,

I am happy and honored to invite you to Kaohsiung for TSSH 2019 which will be held from 11th to 12th May 2019, and will have a rich program of innovations and inspirations.

The 2019 annual meeting of the Taiwan Society for Surgery of the Hand will be no exception. We will have an extraordinary faculty to thrill you by sharing their experience. We have a great venue. Please do come with your family. We recommend you to stay in-house, and make the best of the time in Kaohsiung. At the end of the conference, I am sure all of you will say that the time has been well spent. This is our goal and all of us are working towards it. This event will constitute two-day seminars. There will expected more than 300 participants, including invited key-opinion leaders, renowned professors, medical doctors, and students gathering in the E-Da to share their experiences and insights.

I hope the conference will have a large attendance, and I am working with the Scientific Committee to draw up a top level program making the event dynamic, interactive and international by involving the main groups of hand surgeons in the world. TSSH has always been an important occasion to meet and exchange opinions and techniques, as well as a great opportunity to meet the most renowned experts of hand surgery and all friends from different nations.

We look forward to seeing you in Kaohsiung.

MD, Ph D, FICS

The honorary chairman **Yuan-Kun Tu**

Dear Colleague,

It is our great pleasure to invite you to attend the 2019 Annual Meeting of the Taiwan Society for Surgery of the Hand (TSSH), to be held at the E-Da Cancer Hospital in Kaohsiung, Taiwan, R. O. C., on 11 and 12 May 2019. This event will offer participants—orthopedic and plastic surgeons, and other medical staff who treat hand disorders and trauma—a venue for maintaining cutting-edge knowledge and skills in their fields.

We expect more than 300 participants—invited key-opinion leaders, renowned professors, medical doctors, and students—to share their clinical and academic experience and insights at our two-day seminars at E-Da.

We have invited many international experts and senior delegates from the Asian-Pacific Federation of Societies for Surgery of the Hand (APFSSH). Former President of Thailand Orthopedic Association, Prof. M. Banchong will speak about a very inspiring topic: “Where good ideas for research come from”. Because we respect and appreciate the experience and knowledge of the world’s other societies for surgery of the hand, we always invite one guest society to present their members’ expertise. This year’s special guests are two master surgeons from Japan (present and former presidents of the Japan Society for Surgery of the Hand (JSSH)), Profs. H. Kato and S. Toh and some of their senior surgeon colleagues who will discuss their state-of-the-art techniques. Moreover, we have invited many microsurgery experts from Korea, Singapore, and Thailand, who have been supervised by and collaborated the former TSSH and AFFSSH President, Prof. Yuan-Kun Tu, to share their updated knowledge and techniques in a special symposium.

Once again, we welcome you to the 2019 Annual Meeting of the TSSH and wish you a fruitful and enjoyable time at this event.

With best regards,

I-Ming Jou, MD, PhD

President, Taiwan Society for Surgery of the Hand (TSSH)

Venue information

Program at a Glance

2019/05/11			
	6F Conference Hall		5F Conference Hall
08:30-09:30	Free paper		
09:30-10:00	Coffee Break		
10:00-10:10	Opening Ceremony		
10:15-11:15	Keynote speech	Banchong Mahaisavariya, Jim Soo Kim	
11:15-12:30	Meet The Master	Raja Sabapathy, Anthony Berger, Goo Hyun Baek	
12:30-13:30	Group photo & Lunch		
13:30-15:00	Asia-Pacific Session I		Asia-Pacific Session II
15:00-15:30	Coffee Break		
15:30-17:00	JSSH-TSSH Session		TSRM
18:00-20:00	Gala Dinner		

2018/05/12			
	6F Conference Hall		5F Conference Room
08:30-10:15	Meet the Experts (Tu's Club) Takuya Yoda , Hayato Kuno , Yukichi Zenke, Hyun-Joo Lee, Kanit Sananpanich, Jacqueline Saiu Woon Tan		
10:15-10:45	Coffee Break		
10:45-11:15	Guest society speech I	Hiroyuki Kato	
11:15-11:45	Guest society speech II	Satoshi Toh	
11:45-12:00	TSSH Ambassador Reports		
12:00-12:30	General Assembly		
12:30-13:30	Lunch		
13:30-15:00	Instructional Course-plasty Bone and joint reconstruction		Instructional Course-ortho Complex elbow injury
15:00~	Adjourn		

Speakers Introduction

Keynote Speakers

Banchong Mahaisavariya

Personal Information

Citizenship: Thailand
Office address: 3-1-1 Asahi, Matsumoto, Nagano, 390-8621, Japan

Current Position

Acting President, Mahidol University
Professor of Orthopaedics

Specialties

- Orthopaedic Trauma: fixation techniques and devices
- Hand & Microsurgery
- Biomechanics & Bioengineering

Honors

2001, 2006, 2007-Out-standing Faculty Member of the Year, Faculty of Medicine Siriraj Hospital

2002, 2003, 2004, 2005-Outstanding Poster Exhibit of The Annual Meeting of the Royal College of Orthopaedic Surgeon of Thailand

2004-Out-standing member of The Royal College of Orthopaedic Surgeon of Thailand

2004-Poster Award of The European Orthopaedic Research Society Meeting, Amsterdams, The Netherland

2006-Out-standing Alumni member of Wat Nual-Noradis School

2007-National Award for Best Project in Medical Technology in Thailand 2007 entitled:“Rapid Prototyping in Medicine”

2011-Out-standing Contribution in Medicine Award for Members of Medical Council, Thai Medical Association of ThailandBoard of Surgery of Hand, Taiwan, R.O.C.

Jin Soo Kim

Personal Information

Citizenship: Korea
Office address: 389 Gwangmyeong Sung Ae General Hospital
Gwangmyeong city, Gyungki do, Republic of Korea

Present Title

- Chief of Department of Plastic and Reconstructive surgery, Gwangmyeong Sung ae general hospital, 1997-Present
- Chairman of the Korean Society for Surgery of the Hand, 2019-Present
- Chairman elected the Korean Society for Microsurgery, 2019-Present
- Director, Insurance Affairs of the Korean society of Plastic and Reconstructive surgery, 2019-Present

Board Certification

Plastic Surgery, Republic of Korea, 1995
Surgery of the Hand, Republic of Korea, 2003

Licensures (Active)

Republic of Korea, 41360, Mar/01/1990

Society And Membership

Korean Society for Plastic and Reconstructive Surgeons, 1995-Present
Korean Society for Surgery of the Hand, 1996-Present
Korean Society for Microsurgery, 1996-Present
World Society for Reconstructive Microsurgery, 2009-Present

Hiroyuki Kato

Personal Information

Citizenship: Japan
Office address: 3-1-1 Asahi, Matsumoto, Nagano, 390-8621, Japan

Present Academic and Professional Position

Professor and Chairman of Department of Orthopaedic Surgery,
Shinshu University School of Medicine, Matsumoto, Japan

Clinical interest

Hand surgery (pediatric, rheumatoid, tendon)
Elbow surgery (pediatric, trauma, sports, RA, Total Elbow Arthroplasty)
Peripheral nerve surgery (entrapment neuropathy, nerve repair)

Basic Research interest

Upper limb malformation, Peripheral nerve, Biomechanics, Tendon biology

Academic activity

International member of American Society for Surgery of the Hand (2014 -)
Council member of Japanese Society for Surgery of the Hand (2008-2012) and President (2018 -)
Council member of Japanese Elbow Society (2007-2013) and President (2016 -)
Council member of Japanese Peripheral Nerve Society (2006 -)

Satoshi Toh

Personal Information

Citizenship: Japan
Office address: Hirosaki National Hospital National Hospital Organaization
1-Tomino-cho, Hirosaki, Aomori, 036-8545,JAPAN

Present Academic and Professional Position

April 1st, 2016- present the Emeritus Professor of Hirosaki University
April 1st, 2016- present Director of Hirosaki National Hospital

More specific professional-scientific filed of interest and professional contribution

Hand and Microsurgery, Elbow Reconstruction, Bone Lengthening

1. Visiting Professor:
   1996,Sept. Belglade University in Yugoslavia
   1997.Oct. MGH（Harvard University.） in the USA
   2004.May Chinese University of Hong Kong
   2006.Dec. Kyungpook National University in Korea
2. Honorable Member:
   2004.Jun. Servian Academy of Medical Sciences and Arts
   2008.Sept. Serbian Orthopedic -Traumatologic Association
   2015.Oct. Italian Society Orthopedics and Traumatology
   2018.Apr. Serbian Society for Reconstructive Microsurgery

Membership in professional associations and editorial board

President of Society
2008 Jul.-2010 Sept. Japanese Orthopaedic Society for Sports Medicine
2013 Feb.-2016 Feb. Japan Elbow Society

APFSSH Council Members

S. Raja Sabapathy

Personal Information

Citizenship: India

Present Academic and Professional Position

Chairman, Division of Plastic, Hand & Reconstructive Microsurgery, Ganga Hospital, Coimbatore, India

Brief Bio data of Dr. S Raja Sabapathy

He had a brilliant academic career passing out as the **Best Outgoing Student** from Stanley Medical College, Madras standing first in Medicineand Surgery in the Madras University. Subsequently he trained in Chennai, UK and USA. The efforts of the Plastic and Orthopaedic Departments of Ganga Hospital in the management of major trauma revolutionized trauma care in the country and have been followed as a model in many countries. This has led to many invitations for eponymous lectures and has delivered **30 orations**, chief among them being the Douglas Lamb lecture at the Royal College of Surgeons, Bonnazier lecture at the South African Hand Society, Sushruta Guha Professorship of the Royal College of Surgeons, Edinburgh and has over **75 academic awards**, **300 international presentations and 400 national presentations.** He was conferred **the Hon Fellowship (Hon FRCS)** of the Royal College of Surgeons and Physicians of Glasgow, **Hon Membership** of British, South African Hand Societies and Serbian Microsurgery society.

He has been the **Visiting Professor** in Mayo Clinic, Yale University, Michigan University, Washington University, Singapore, Malaysia, Sri Lanka and Bangladesh. He has co-authored a Microsurgery Practice Manual and has published 120 papers, 41 book chapters. The Microsurgery training lab is considered as one of the best in the world.**1600 surgeons from 65 countries have visited the unit, an unique feat unmatched by any other unit in the country**, The institution has also introduced **Ganga Air Ambulance** which is the first hospital based air ambulance service in the country.

He has also taken administrative positions and has been the Organizing Chairman of the Triennial Congress of the International Hand Surgery congress (2013) and the World Microsurgery congress (2015), and the only person who has had the opportunity to be the chair of both these prestigious congresses. At present he is the **President Elect** of the Asian Pacific Federation of Societies for Surgery of the Hand, Council member of the International Federation of Societies for Surgery of the Hand. He has held the presidencies of the

Association of Plastic Surgeons of India, Indian Society for Surgery of the Hand, Indian Society for Reconstructive Microsurgeryand Brachial Plexus Surgery Group of India.

Anthony Berger

Personal Information

Citizenship: Australia

Current positions

- Head of Hand Surgery, Plastic and Reconstructive Surgery Unit. St. Vincent's Public Hosp.
- Director Victorian Hand Surgery Associates Hand Fellowship Program
- AHSS delegate to International Federation of Societies for Surgery of the Hand
- Chairman fees subcommittee AHSS
- Secretary General APFSSH

Experience

- MBBS Monash 1978
- FRACS Orthopaedics 1988
- Hand Surgery Fellow Kleinert Institute Louisville Kentucky 1988
- Senior Hand Fellow / Hand Scholar Kleinert Institute 1989
- Hand Fellow Wrightington UK 1990
- Commenced Private practice in Hand Surgery October 1990
- Appointed Hand Surgeon to St. Vincent's Plastic and Reconstructive Surgery Unit Nov 1990
- Joined Australian Hand Surgery Society (AHSS) 1992
- Secretary AHSS 2004 – 2008
- President elect AHSS 2014-2016
- President AHSS 2016-2018

Current memberships

- Royal Australasian College of Surgeons
- Australian Orthopaedic Association
- Australian Hand Surgery Society

Goo Hyun Baek

Personal Information

Citizenship: Korea

Current Academic Appointment

Professor (Tenured), Department of Orthopedic Surgery, Seoul National University College of Medicine, Seoul, Korea

Current Hospital Appointment

Professor (Tenured), Department of Orthopedic Surgery, Seoul National University Hospital, Seoul, Korea

International Appointments

2004 – 2010: General Secretary and Program Chairman, 11th Congress of International Federation of Societies for Surgery of the Hand (IFSSH)
2012 – 2014: General Secretary, Asian Pacific Federation of Societies for Surgery of the Hand (APFSSH)
2015 - Present: Editor-in-chief, Journal of Hand Surgery Asian-Pacific Volume
2016 – 2019: General Secretary-Elect, International Federation of Societies for Surgery of the Hand (IFSSH)
2017 – 2020: President, Asian Pacific Federation of Societies for Surgery of the Hand (APFSSH)

International Memberships

International Member, American Society for Surgery of the Hand (2001)
Honorary Member, New South Wales Hand Surgery Association (Australia) (2009)
Honorary Member, Queensland Hand Surgery Society (Australia) (2009)
Honorary Member, Hungarian Society for Surgery of the Hand (2011)
Honorary Member, Hong Kong Society for Surgery of the Hand (2014)

International speakers

Takuya Yoda

Personal Information

Citizenship: Japan

Office address: Department of Orthopaedic Surgery Niigata University,757, Ichibanchou, Asahimachidori, Chuou-ku Niigata City, 951-8510, Japan

Professional Experience

2017-Medical Staff, Department of Orthopaedic Surgery, Niigata University

2015 to 2017-Medical Staff, Department of Orthopaedic Surgery, Uonuma Kikan Hospital

2014 to 2015-Medical Staff, Department of Orthopaedic Surgery, Koide Hospital

2012 to 2014-Fellow in hand surgery, Niigata Hand Surgery Foundation

Professional Memberships

- Japanese Orthopaedic Association
- Japanese Society for Surgery of the Hand
- American Society for Surgery of the Hand
- Japanese Society of Reconstructive Microsurgery
- Japanese Elbow Society
- Eastern Japan Society for Surgery of the Hand
- Japanese Society for Fracture Repair

Japanese Association for the Surgery of Trauma

Hayato Kuno

Personal Information

Dept. chief of Hand Surgery Kameda Medical Center,Japan
Citizenship: Japan

Major Research Interests

Hand Surgery, Microsurgery and Reconstructive surgery.

Membership

Japanese Orthopaedic Association -Member, 2007- present Japanese Society for Surgery of the Hand- Member, 2007- present Japanese Society for Fracture Repair- Member, 2007- present
Japanese Society of Reconstructive Microsurgery- Member, 2007-present

Awards and Honors

- Invited Speaker

The 11th annual congress of Ho Chi Minh City Hand Surgery Society Ho Chi Minh City, Vietnam March 22, 2013

- Scientific Award

The 40th Annual Meeting of the Japanese Society for Fracture Repair July 28, 2014

Yukichi Zenke

Personal Information

Citizenship: Japan
Address: 807-0805 Iseigaoka 1-1, Yahatanishiku Kitakyusyu city Fukuoka pref. Japan
The director of orthopaedic trauma center, university of occupational and environmental health Japan; Orthopaedic assistant professor, Fukuoka Japan

Research Program / Specialty

- Well developed interpersonal skills with broad experience in orthopaedic surgery especially for hand surgery and trauma, reconstructive surgery.
- distal radius fractures, scaphoid nonnuion, carpal tunnel syndrome, minimary ivasive surgery, etc.
- Self motivated with the ability to work well individually or as part of a highly energetic team.
- Problem solving and resolution techniques with active listening skills.

Academic Appointment / Membership Of Society

- Medical doctor (May 1997)
- Industrial physician MD (April 1998)
- Orthopaedic surgery specialist (May 2004)
- PhD (Aug 2009)
- Hand surgery specialist (May 2012)
- AOTrauma Japan faculty of educational department (Feb 2017)
- Japanese society for surgery of the hand (JSSH)
- Japanese society for fracture repair (JSFR)
- Japanese society of reconstructive microsurgery (JSRM) etc.

Hyun-Joo Lee

Personal Information

Citizenship: Korea
Office address: 4 Pandan Valley, #04-401, Eugenia Court, Singapore 597628

Clinical Appointments

Assistant Professor of Orthopaedic Surgery and Address School of Medicine, Kyungpook National University Hospital (KNU)130, Dongduk-ro, Jung-Gu, Daegu, KOREA (700-721)

Certification & License

Korean Medical License (No. 85813)	May 2005
Korean Board of Orthopaedic Surgery	Mar 2010
Korean Board of Hand Surgery	Mar 2013

Kanit Sananpanich

Personal Information

Citizenship: Thailand
Office address: Chiang Mai University, Department of Orthopedics,
Intawaroros St. Suthep Muang, Chiang Mai 50200, Thailand

Skills & Activities

Vascular Imaging, Hand Surgery, Microsurgery, Brachial Plexus, Nerve, Tendon Injuries, Surgical Flaps

Interests

Tetraplegia reconstruction, Nerve transfer, Flap surgery

Scientific Membership

Royal Collage of the Orthopaedic Thai Surgery (RCOST)
Hand Society of Thailand
Microsurgery Society of Thailand

Tan Siau Woon Jacqueline

Personal Information

Citizenship: Singapore

Introduction

Dr Jacqueline Tan is currently the Head & Senior Consultant in the Department of Hand Surgery. A passionate clinician and educator, she has been serving as the Director of Micro-reconstruction Service since 2013, as well as the Director of Reconstruction of the Paralysed Limb Service since 2017.

Dr Tan has completed a one year advanced fellowship in Taiwan, specializing in Brachial Plexus Surgery and Advanced Microsurgery under the tutelage of internationally acclaimed expert hand and microsurgeon – Professor Yuan-Kun Tu. Her areas of special interests are in early and late brachial plexus reconstruction, peripheral nerve disorders and reconstructive microsurgery of the extremities (includes free tissue transfers, free functioning muscle transfers and vascularised bone grafts).

Dr Tan has published widely in the field of hand surgery, with numerous first-author publications in peer-reviewed journals. She is active in academic teaching and holds concurrent teaching appointments of Adjunct Assistant Professor with Duke-NUS Medical School, as well as, Adjunct Assistant Professor with NUS Yong Loo Lin School of Medicine. She was previously the Program Director for Singhealth Hand Surgery Residency Program.

Dr Tan is currently the Vice President of the Singapore Society for Hand Surgery, Vice Chairperson for the Chapter of Hand Surgeons, as well as, Honorary Secretary for the Singapore Reconstructive Microsurgery Society. National University Hospital, Singapore

Professional Appointments & Committee Memberships

Vice President, Singapore Society of Hand Surgery
Vice Chairperson, Chapter of Hand Surgeons, College of Surgeons Singapore
Honorary Secretary, Singapore Reconstructive Microsurgery Society
Core Faculty Member, Singhealth Hand Surgery Residency Program
Core Faculty Member, Singhtealth Orthopaedic Surgery Residency Program
Fellow, Academy of Medicine, Singapore
Member, Royal College of Surgeons, Edinburgh
Member, Singapore Medical Association

International scholars & Ambassadors

Kiyohito Naito

Personal Information

Citizenship: Japan
Office address: 2-1-1 Hongo, Bunkyo-ku, Tokyo 113-8421, Japan

Clinical Appointments

2018-Juntendo University,Department of Orthopaedics,Tokyo Japan (Assistant Professor)

Research Program / Specialty

Anti-aging of tendons
Distal radius fractures

Academic Appointment / Membership Of Society

The Japanese Orthopaedic Association (Member)
Japanese Society for Surgery of the Hand (Member)
Japanese Society for Reconstructive Microsurgery (Member/Councilor)
French Society for Surgery of the Hand (Junior member)

Awards

Sep 2015: Award of Surgical department, The 26th Annual Meeting of the Japanese Peripheral Nerve Society
Mar 2018: Best Reviewer Award for the year 2017 "Journal of Orthopaedic Case Report"

Arisa Okubo

Personal Information

Citizenship: Japan
Office address: 7-7 Niban-cho Chiyoda-ku Tokyo Japan.

Present Academic and Professional Position

2017Apr – Present: Medical staff of Hand and Microsurgery Center in Yotsuya Medical Cube (Chiyoda-ku Tokyo Japan)

Academic Societies

Member : Japan Society of Plastic and Reconstructive Surgery
Member: Japanese Society for Surgery of the Hand
Member: Japanese Society of Reconstructive Microsurgery

Research Interest

Hand surgery & Microsurgery.
Reconstructive surgery of upper limb palsy.
Surgery for peripheral neuropathy and osteoarthritis of hand.

Byung Jun Kim

Personal Information

Citizenship: Korea
Office address: Department of Plastic and Reconstructive Surgery Seoul National University Hospital 101, Daehak-ro, Chongno-Gu, Seoul 03080, Korea

Professional Appointment

- Assistant Clinical Professor, Department of Plastic and Reconstructive Surgery,
- College of Medicine, Seoul National University, Seoul, Korea
- May 1, 2014 to August 31, 2017
- Associate Clinical Professor, Department of Plastic and Reconstructive Surgery,
- College of Medicine, Seoul National University, Seoul, Korea
- September 1, 2017 to present

Membership in Societies

Korean Medical Association
Korean Society of Plastic and Reconstructive Surgeons
Korean Society of Aesthetic Plastic Surgery
Korean Cleft Palate-Craniofacial Association
Korean Society for Surgery of the Hand

Honors and Award

The best paper prize, the Korean society of plastic and reconstructive surgeons, 2008
The best paper prize, the Korean society of plastic and reconstructive surgeons, 2015
Plastic and Reconstructive Surgery Best Paper Award, 2018
ASSH International Traveling Fellow 2018

Hyun Sik Gong

Personal Information

Citizenship: Korea
Office address: Department of Orthopedic Surgery, Seoul National University
Bundang Hospital, 300, Gumi-dong, Bundang-gu,
Seongnam-si, Gyeonggi-do, 463-707, Republic of Korea

Professional Positions

2016.03– now Professor, Seoul National University College of Medicine
2004.05– now Consultant for Hand Surgery, Department of Orthopedic Surgery, Seoul National University Bundang Hospital

Academic Appointment / Membership Of Society

A member of the Korean Orthopedic Association since 2001
A member of the Korean Society for Surgery of the Hand since 2005
A member of the Korean Society of Microsurgery since 2005
A member of the Korean Shoulder and Elbow Society since 2005
A member of the Korean Foot and Ankle Society since 2005
A member of the Korean Fracture Society since 2009
A member of the Korean Rheumatism Association since 2009
A board member of the Korean Rheumatism Association since 2014
A member of the Korean Society of Bone Metabolism since 2009
A member of the American Society for Bone and Mineral Research since 2010
A board member of the Korean Society of Microsurgery since 2010
A board member of the Korean Society for Surgery of the Hand since 2010
A reviewer of Journal of Korean Orthopedic Society since 2006
A reviewer of Journal of the Korean Society for Surgery of the Hand since 2010
A reviewer of Clinical Orthopedics and Related Research since 2004
A reviewer of the British Journal of Sports Medicine in 2007
A reviewer of Journal of Shoulder and Elbow Surgery in 2008
A reviewer of Hand Surgery Asian volume since 2011
A consultant reviewer of Journal of Hand Surgery-American since 2012
A member of the American Society for Surgery of the Hand (ASSH) since 2013

Chow Esther Ching San

Personal Information

Citizenship: Hong Kong

Work Experience

Associate Consultant (June 2014 to present)

- United Christian Hospital
- Department of Orthopaedics and Traumatology

Professional Qualifications

MRCS (Edin): Royal College of Surgeons of Edinburgh November 2004
FRCS Ortho (Edin): Royal College of Surgeons of Edinburgh May 2009
FHKCOS: Hong Kong College of Orthopaedic Surgeons May 2009
FHKAM (Ortho. Surgery): Hong Kong Academy of Medicine June 2010

Current Research Projects

- Classification of thumb polydactyly with ultrasound, correlation with intra-operative findings and comparison with the old Wassel classification
- Finger web space morphology in children and the effects of syndactyly treatment using a 3D scanning machine

Sandeep Jacob Sebastin

Personal Information

Citizenship: Singapore

Office address: 4 Pandan Valley, #04-401, Eugenia Court, Singapore 597628

Clinical Appointments

- Senior Consultant, Department of Hand & Reconstructive Microsurgery
  National University Hospital, Singapore
- Visiting Senior Consultant, Department of Orthopaedic Surgery
  Changi General Hospital, Singapore
- Visiting Senior Consultant, Department of Orthopaedic Surgery
  Ng Teng Fong General Hospital, Singapore

Administrative & Teaching Appointments

- Assistant Professor, Department of Orthopaedics, Yong Loo Lin School of Medicine, National University of Singapore
- Director, Research Program, Department of Hand & Reconstructive Microsurgery
- National University Hospital, Singapore
- Chair, Hand Surgery Examination Committee, Joint Committee for Specialist Training, Ministry of Health, Singapore (2015-19)
- Member, Residency Advisory Committee for Hand Surgery, Ministry of Health, Singapore (2018) Editor, Singapore Society for Hand Surgery (2017-19)
- Immediate Past President, Singapore Society for Surgery of the Hand (2015-17)
- Immediate Past Chair, Chapter of Hand Surgeons, Academy of Medicine, Singapore (2015-17)

Membership of Professional Bodies

American Society for Surgery of the Hand (ASSH)

Association of Plastic Surgeons of India (APSI)

Chapter of Hand Surgeons, College of Surgeons, Academy of Medicine Indian Society for Reconstructive Microsurgery (ISRM)

Indian Society for Surgery of the Hand (ISSH)

Reconstructive Microsurgery Society of Singapore (RMSS)

Singapore Society for Hand Surgery (SSHS)

Robert Yap Tze-Jin

Personal Information

Citizenship: Malaysian
Office address: Dept of Hand Surgery, Academia Level 4, 20 College Road
Singapore 169856

Brief Biography

Dr Robert Yap Tze Jin is a consultant in the Department of Hand and Reconstructive Microsurger of Singapore General Hospital. He obtained his specialist training in Hand Surgery in Singapore, and completed his specialist exit examination in June 2016.
He is currently clinical lecturer for NUS-YLLSOM.

Membership in Professional & Academic Societies

Royal College of Surgeons Ireland August 2009

Awards & Honours

1. June 2002-Health Research Board Ireland Summer Grant (Medical Student) Effect of caffeine on rat diaphragm and sternohyoid mucle contractile properties. Project Supervisor- Dr. Ken O'Halloran Dept of Human Anatomy and Physiology University College Dublin.
2. NUS Yong Loo Lin School of Medicine -Dean's Award for teaching Excellence (for academic year 2013/2014 & 2016/2017)
3. Singapore Health Quality service awards 2017- Gold Award
4. SGH Service with a Heart Award Dec 2016

TSSH Speakers

Yuan-Kun Tu

Professional affiliations

1. Professor in Orthopedic & Medical Engineerings, E-DA hospital/ I-Shou University
2. Professor, Department of Medicine, I-Shou medical school / University
3. Superintendent, E-DA hospital / I-Shou University.
4. CEO, E-Da Medical Institutes.

Surgical Specialty

1. Orthopedic trauma
2. Microsurgery
3. Brachial plexus reconstruction
4. Hand & wrist surgery
5. Spine surgery (Cervical spine & Tetraplegia)

Academic works

- 248 scientific papers in JBJS, JHS, JOR, JRM. J Trauma, Acta Orthop, CORR, Spine, Orth Clin NA, Injury, Biomaterial, Microsurgery, Bioengineering, etc.
- Reviewer & Board of editor: Microsurgery, The Scientific World Journal, Journal of Hand Surgery, Clinical Biomechanics, JOS, JBMS, J Wrist surgery, Injury, Biomedical J..
- 12 Chapters author in orthopedic and microsurgery textbooks.
- 85 research projects (1991~2018) focus on biomechanics of hand, nerve, vessel, endothelial cells, and implants (spine, fracture, hand & wrist).

Honors & Awards

- The “Whole Taiwan 10 Most Outstanding Youth Award”, Taiwan, 2000.
- The “Distinguished best 100 doctors in Taiwan” Award (2009-2010)
- The National Outstanding and the Best Doctor in Taiwan Award, 2012
- The Taiwan National Special Contribution & Dedication Award , 2013
- The Distinguished Outstanding Alumni Award, Taipei Medical University, 2015
- The Distinguished Outstanding Alumni Award, National Cheng Kung

University, 2016

Fong-Chin Su

Experiences

- 2011/04-present Founding Director, Medical Device Innovation Center (Global Center of Excellence), National Cheng Kung University, TAIWAN
- 2011/11-present Founding Director, Musculoskeletal Research Center, National Cheng Kung University, TAIWAN
- 2010/12-present President, Taiwanese Society of Biomedical Engineering
- 2003-present Distinguished Professor, National Cheng Kung University, TAIWAN
- 1997-present Professor, Institute of Biomedical Engineering, National Cheng Kung University, TAIWAN
  Responsibilities: Director of Motion Analysis Laboratory; clinical service for children and adults with neural, muscular and skeletal problems; direct research on both the fundamental and applied aspects of human locomotion; training of doctoral candidates; teaching graduate engineers and medical doctors and clinicians.

Memberships And Committees

- Board of Science and Technology, Executive Yuan, Taiwan; Adjunct Researcher 2013-
- National Cheng Kung University; Strategic Development Committee 2012-
- Academia-Industry Consortium for South Taiwan Science Park, National Cheng Kung University Member 2012-
- Asian-Pacific Association for Biomechanics; Founding Councilor 2005-
- Society of Gait and Clinical Movement Analysis; Member 1997-
- International Society of Biomechanics; Member 1995-
- Ergonomics Society of Taiwan; Member 1993-
- The Society of Theoretical and Applied Mechanics, ROC; member 1991-
- Sport Medicine Association, ROC; Member 1990-

Ching-Hou Ma

Personal Information

Office address: Orthopedic department, E-Da hospital. No.1, Yida Road, Jiaosu Village, Yanchao District, Kaohsiung City 82445, Taiwan, R.O.C

Clinical Appointments

Chief of division of Trauma, Department of Orthopedic Surgery E-Da Hospital / I-shou University
Assistant Professor I-Shou University

Research Interest

Orthopaedic Traumatology
Microsurgery & Soft Tissue Reconstruction
Hand Surgery
Arthroplasty
Sports Medicine

Membership in Professional Societies

President ,Taiwan Orthopedic Trauma Association
Surgical Association, Taiwan, R.O.C.

Ying-Chao Chou

Personal Information

Officie Address: No 5 Fu-Hsin Road, Kweishan, Taoyuan, TAIWAN
Office Tel: 03-3281200 ext: 2423

Employment

1998-7-1 to 2002-6-30 : Resident Doctor in the Orthopedic Department Chang Gung Memorial Hospital Taipei –Linkou Medical Center
2002-7-1 to 2003-10-31 :Attending Physican and Fellow of orthopedic mcroscopic surgery in the Orthopedic Department Chang Gung Memorial Hospital, Keelung
2003-11-1 and after: Attending Physican in the Orthopedic Department Chang Gung Memorial Hospital Taipei –Linkou Medical Center

Professional Affiliations

Taiwan Society for Surgery of the Hand
- 2008-6 to 2010-5: The Tenth Director
- 2010-6 to 2012-5: Secretary-General
- 2012-6 to 2014-5: The Twelfth Director
- 2014-6 to 2016-5: The Thirteenth Director

Taiwan Orthopedic Trauma Association
- 2014-10-25 to 2016-10-24: The Fourth Director
- 2016-11-4 to 2018-11-3: The Fifth Director
- 2018-11-4 and after: The Sixth Secretary-General

Research Interest

Hand Surgery
Microsurgery
Soft Tissue Reconstruction
Orthopedic Traumatology

Jung-Pan Wang

Personal Information

Office Address: 201, Sec. 2, Shih-Pai Road, Taipei, Taiwan
Office Telephone: +886-2-28757557 ext 9

Associate Professor, National Yang-Ming University.
Division chief of Hand and microsurgery, Taipei Veterans General Hospital, Taipei, Taiwan

Committee Appointments

- Active Member of American Orthopedic Research Society (ORS) 2011~present
- Active Member of American Society for Surgery of the Hand (ASSH) 2015-present
- Member of Taiwan Orthopedic Society 2003~present
- Member of Taiwan Hand Society 2004~present
- Reviewer of International Research Journal of Pharmacy and Pharmacology, 2011
- Reviewer of Plos One, 2011
- Reviewer of International Journal of Biochemistry & Cell Biology, 2013
- Reviewer of Journal of Biomedical Science, 2014
- Reviewer of JCMA 2016, 2017,2018
- Reviewer of Journal of Orthopedic Surgery and Research 2015, 2016, 2017, 2018,2019

Hui-Kuang Huang

Personal Information

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Dr. Huang has published more than 20 scientific articles in international journals, including Journal of Hand Surgery American volume and European volume. He devotes himself to the hand surgeries, especially focus on the wrist arthroscopy, nerve surgery, and reconstructive hand surgery. He also contributed to the improved outcomes of distal radius fractures fixation and ulnar shortening osteotomy as well as many hand surgeries.

Current Position

1. Attending Staff, Hand Surgery division, Orthopedics Department, Chiayi Christian Hospital, Taiwan (2012-now)
2. Contract Attending Staff, Orthopedics Department, Taipei Veterans Hospital, Taiwan (2012-now)

Yi-Chao Huang

Personal Information

Name of Hosp: Taipei Veterans General Hospital
Section & Position: Hand surgeon, Hand Surgery, Department of Orthopedics
Office address: 18F. No 201, Shih-Pai Rd,Sec 2 ,Taipei, 112 Taiwan

Occupational History (Including Research Activity)

- 1999-10－2001-05 Taipei Veterans General Hospital & Intern
- 2001-09－2006-07 Taipei Veterans General Hospital & Orthopedic Resident
- 2006-07－2009-03 Taipei Veterans General Hospital & Hand Surgery Fellowship
- 2009-03－Now Taipei Veterans General Hospital & Hand Surgery Attending Physician
- 2011-11－2012-10 Stanford University, Stanford Hospital & Clinics Research fellow and Clinical Observer

Outstanding Achievements

- 2001－National medical license exam
- 2006－Orthopedic specialist exam, ranked number 1 of the nation
- 2007－Obtained Hand Surgery sub-specialist certificate
- 2014~2016－The Secretary-General, Society for Surgery of the Hand, Taiwan
- 2016~ －The executive directo, Taiwan society of Surgery of the Hand

Yung-Cheng Chiu

Experience and Qualification

Present: China Medical University Hospital, Dept. of Orthopedics, Director of Hand and Microsurgery Division 2016-now
Taichung Veterans General Hospital, Dept. of Orthopedics, Attending physician, 2007-2016
China Medical University, Graduate Institute of Clinical Medical Science, PhD 2008-2011
China Medical University, Graduate Institute of Chinese Medical Science, MS 2006-2008
China Medical University, School of Medicine, MD 1991-1998

Oversea Fellowship Training

Upper limb surgery fellowship training in Indiana Hand Center, USA (Oct. 2011 to Jan. 2012),
Hand and microsurgery fellowship in Tan Tock Seng Hospital, Singapore (Jan.2014 to Jun. 2014)
Hand and microsurgery fellowship in Dr. Pinal's Clinic, Spain (Jul.2014 to Sep. 2014)
Hand and microsurgery fellowship in Shandong Provincial Hospital, China (Jun.2018 to Oct.2018)

Excellent Practice

Hand and upper limb surgery
Limb reconstructive microsurgery
Orthopedic Trauma

Jung-Hsien Hsieh

Personal Information

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Professional Experience

- 2003—now Attending Physician,Plastic division of Surgery Department, National Taiwan University Hospital

Memberships and Associations

- Plastic Surgical Association Republic of China
- Society for Surgery of the Hand, Taiwan
- Taiwan Surgical Association

Chin-Fu Chang

Personal Information

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Dr. Chang was graduated from National Defense Medical Center in 2011 and served as resident of surgery in Taichung Veterans General Hospital since 2013.

Working Experience:

September 2013 - Present
Resident - Plastic & Reconstructive Surgery, Taichung Veterans Hospital,Taichung, Taiwan

Program & Abstract

Saturday, May 11, Sixth Floor Conference Room, E-DA Cancer Hospital

Keynote Speech		
Time：10:15~11:15		Moderator: Yuan-Kun Tu / Fong-Chin Su
TIME	AGENDA ITEM	WHO
10:15-10:45	Where good idea for research comes from?	Banchong Mahaisavariya
10:45-11:15	Secondary surgery after replantation.	Jin Soo Kim

Where Good Idea for Research Comes From

Banchong Mahaisavariya, MD
Faculty of Medicine Siriraj Hospital
Acting President; Mahidol University, Bangkok Thailand

Research in medical profession is moving very fast especially in orthopedic surgery. Young researchers may struggle with the creation of new idea or research questions. It is not an easy issue to learn from a short period of experience. This presentation is to share the life time personal experiences in orthopedic researches that came into practice. The detail of “Where good idea for research comes from” can be categorized in 6 common modes. They are as followings; modifying, replacing, extending, reversing combining and magnifying. Explanation of each mode will be described in more detail.

Secondary Surgery after Replantation

Department of Plastic and Reconstructive Surgery,
Gwang-Myeong Sung-Ae General Hospital,
Gyeonggii-do, Republic of Korea

Many surgeons report success rate of replantation over 90%. If type of amputation is guillotine type, good functional outcome is expected with single surgery. But, majority of case are severe damaged. For this reason, nonunion, atrophy, nail bed deformity, tendon adhesion are common after replantation. To get a good result these problems should be corrected. I would like to show additional surgery to improve function after replantation.

Bone： The most common problem after replantation surgery is nonunion and malunion. Bone complication should be treated as a first procedure. Bone graft from iliac crest, distal radius or proximal ulnar is popular procedure. If malunion or rotation al deformity happens, corrective osteotomy is the procedure of choice.

Joint： If joint is damaged, arthrodesis is recommended. Joint transfer from the toe is good option. But, toe joint transfer after replantation surgery is always scared because of one artery has to sacrifice from replanted digit. Nevertheless this is only option that make joint functional.

Flexor tendon： Because of early motion is not possible after replantation, tendon adhesion is common. If tendon adhesion is persistent until 3-6 months and passive ROM is good, tenolysis or grafting is considered. Whenever performing flexor tendon surgery, neurovascular bundle should be protected safely.

Extensor tendon： Like flexor tendon, adhesion is common problem after replantation surgery. Extensor tenolysis, tendon graft, Excision of oblique fiber of extensor tendon is possible procedure. Extension failure of DIP joint is treated with DIP fusion. But in highly motivated patient, spiral oblique retinacular ligament reconstruction can be option to get DIP extension.

Contracture： Contracture of replantation is common because of crushing of injury patient. Depend on level of severity, Full thickness skin graft, local flap like Z plasty or free flap is possible procedure. Since this digit is replanted, always neurovascular pedicle should be carefully protected.

Fingertip：

1) Nail Deformity： After fingertip replantation, nail bed deformity is inevitable. Nail bed scar prevent nail growth and result in buckling deformity. Deformed nail bed can be reconstructed with grafts from toe nail bed. But

result of nail bed graft shows wide range of result from excellent to poor and wait more than 6 months to get. If nail is totally absent, free flap form the toe is possible procedure

2) Painful fingertip due to Soft Tissue Atrophy： Because of initial crushing injury or circulation of replanted fingertip is decreased, pulp atrophy is very common. Even though revision amputation, thickness of soft tissue over distal phalanx is same. Only way to fix is adding soft tissue by grafting or flap surgery. Dermofat graft to fingertip is simple and easy way to correct soft tissue deficiency.

3) Sensory Loss： Only way to solve sensory loss is transferring sensory flap. Depend on size of defect, pulp free flap from toe is indicated.

The primary goal of replantation surgery is survival. But function outcome recovery is very important. When performing replantation, surgeon should prepare secondary procedures.

Program & Abstract

Saturday, May 11, Sixth Floor Conference Room, E-DA Cancer Hospital

Meet The Master		
Time：11:15~12:30		Moderator: I-Ming Jou / Yu-Te Lin
TIME	AGENDA ITEM	WHO
11:15-11:35	Tips for successful outcome in paediatric hand reconstruction.	S. Raja Sabapathy
11:35-11:55	Frontiers in hand surgery. What does the future hold?	Anthony Berger
11:55-12:15	How to improve the surgical outcomes of radial polydactyly.	Goo Hyun Baek
12:15-12:30	Discussion	
12:30-13:30	***Group photo & Lunch***	

Tips for successful outcome in Paediatric Hand Reconstruction

Abstract

Microsurgery has helped to extend the indications in salvage of Paediatric Hand Injuries. In salvage of major injuries we need to get the patients primarily, achieve soft tissue cover early and choose the correct sequence of reconstruction. In reconstruction of congenital hand difference, Toe transfer in children could yield excellent results. Placement of the thumb in the right position in relation to the other available tissues is critical for success. Replantations and revascularisation in children could give extremely good outcome. The ultimate outcome dependsupon overall management of all damaged components. The talk will delve on these and other technical details which are vital for success. Attention to detail is important.

Frontiers in Hand Surgery. What does the Future hold

Abstract

Advances in the treatment of all conditions afflicting mankind is advancing at an astronomical rate. Investigations, medical and surgical treatments and preventative treatments available today would have been unthinkable 50 years ago. To try to predict what might happen over the next 50 or more years is just as unimaginable. These advances have however come about as a result of physicians such as us asking questions. Why did this not work? Could I not have predicted this outcome and how can it be prevented? Are we going in the right direction or do we need to change course, abandon this way of thinking and look elsewhere? Are we fully exploiting areas of technological and scientific advances elsewhere and adapting these to our problems.
I will cover some current problems we have with our understanding and treatment of hand conditions and look at possible future directions for research. Where are the dead ends and where might we open doors. If I am successful I will create more questions than I can possibly answer and someone here may get a spark of an idea.

How to Improve the Surgical Outcomes of Radial Polydactyly

Goo Hyun Baek
Professor
Department of Orthopedic Surgery
Seoul, Korea

Abstract
Radial polydactyly is a common congenital difference of the upper extremity in all races.
Owing to the accumulation of clinical experiences and knowledge, development of surgical and anesthetic techniques, and rapid communication of information, surgical outcomes of radial polydactyly have greatly improved recently.
When a baby with radial polyactyly and his/her parents visit the outpatient department (OPD), it is very important to inspect both hands of the patient. Most of the babies with unilateral involvement show smaller sizes of affected thumbs than that of contralateral normal thumbs. Thus, the parents should understand that even if the more dominant one is preserved in the affected thumb, it will be smaller in length and girth when compared to the unaffected side. The timing of surgery depends on general condition of the patients, priority of surgery in patients with multiple associated anomalies, types of radial polydactyly, and most importantly surgeon's preference. There is no gold standard for surgical timing of radial polydactyly. However, earlier surgery is recommended when surgical planning is completed and the structures of the thumb are large enough to manipulate surgically.
Pedunculated types of radial polydactyly can be ligated at OPD or nursery. Simple excision under general anesthesia is indicated, when there is no bony connection between two polydactyly thumbs, and a dominant thumb shows good stability, motion, and alignment. Most of children with radial polydactyly can be treated with the 'excision and reconstruction' principle. Main components of this procedure are arthroplasty, corrective osteotomy, and tendon realignment. When both polydactylic thumbs are hypoplastic and symmetrical, the Bilhaut-Cloquet procedure can be an option. However, complications such as joint stiffness, physeal growth disturbance, and

nail-plate deformity were common after this procedure. Therefore two modified techniques to overcome possible complications are introduced, one for Wassel type II and the other for Wassel type IV. On-top plasty technique is another type of combination procedure. In certain patients with radial polydactyly, one thumb has better distal portion and the other one better proximal portion. The better distal part of one thumb can be transposed to the better proximal part of the other thumb.

Although most of the radial polydactyly can be successfully treated by above techniques, it is hard to obtain good results in certain patients whose polydactylic thumbs are severely hypoplastic.

Program & Abstract

Saturday, May 11, Sixth Floor Conference Room, E-DA Cancer Hospital

Asia Pacific Session I		
Time：13:30~15:00		Moderator: I-Chen Chen / Tsan-Shiun Lin
TIME	AGENDA ITEM	WHO
13:30-13:42	Clinical experience and surgical strategy on the polydactyly of the hand.	Byung Jun Kim
13:42-13:54	Experience with the surgical treatment of thumb duplication.	Jung-Hsien Hsieh
13:54-14:06	Transposition of duplicated thumb for reconstruction of asymmetric radial polydactyly.	Chin-Fu Chang
14:06-14:18	Peripheral nerve reconstruction: My journey between the bench and the world.	Jung-Pan Wang
14:18-14:30	Silicone implant arthroplasty for Bouchard's nodes.	Arisa Okubo
14:30-14:42	Tendon transfers for ulnar nerve palsy – What works and what does not!	Sandeep Jacob Sebastin
14:42-15:00	Discussion	
15:00-15:30	***Coffee Break***	

Clinical experience and surgical strategy on the polydactyly of the hand

Byung Jun Kim
Seoul National University Hospital

Purpose：Polydactyly is one of the most common congenital hand anomalies. Personalized surgical strategy should be performed based on the clinical features. We investigated clinical data on the polydactyly of the hand in the department of plastic surgery, Seoul National University Hospital (SNUH).
Methods：A retrospective analysis was performed on the 668 patients with polydactyly of the hand between 2000 and 2017. Demographics, clinical features, surgical strategy, and postoperative outcome were evaluated.
Results：Pre-axial type was the most common (n=644, 96.4%), followed by post-axial (n=15, 2.2%) and axial (n=9, 1.3%) type polydactyly. In the zig-zag deformity of type IV pre-axial polydactyly, we performed oblique osteotomy with fat graft to achieve a sufficient thumb length and good aesthetic contour. Axial type polydactyly manifested in the ring finger in most cases (n=8, 88.9%), and secondary operation was performed in 7 cases (77.8%).
Conclusion：Pre-axial polydactyly is the most common type in SNUH. Axial polydactyly requires secondary operations in most cases, which showed poor postoperative functional results. Good functional and aesthetic results can be obtained through the personalized surgical procedures.

Experience with the Surgical Treatment of Thumb Duplication

Purpose: The aim of this study is to investigate the functional and cosmetic outcome after surgical reconstruction in thumb duplication.
Methods: Twenty-one hands of the 20 patients with thumb duplication were treated surgically. Clinical and radiologic examination was performed and cases were classified according to the Wassel system. The outcome was evaluated according to the Modified Wood criteria.
Results: There were 17 small child hands with average of 1 year 4 months (range, 1 year to 2 years 9 months). There were also 3 old children (5, 7, 11 years) and one adult (20 years). The hands were classified according to Wassel system: 2 were type 2, 4 were type 3, 11 were type4, 3 were type 5, and other condition in one hand. Cosmetic and functional results were excellent in 2 hands, good in 18 hands, and fair in 1 hand.
Conclusion: The findings of this study revealed that thumb duplication can be surgically reconstructed satisfactorily. The surgery should be undertaken around 1 year old. Some patients came to our clinic and asked for reconstruction at older age. In this situation, the surgery should not be delayed after diagnosis.

Transposition of Duplicated Thumb for Reconstruction of Asymmetric Radial Polydactyly

Chin-Fu, Chang
Taichung Veterans General Hospital

Background: In this study,we present the long-term functional and aesthetic outcomes in patients with complicated asymmetric radial polydactyly treated with this surgical technique involving the transposition of a duplicated thumb.

Methods: We evaluated 6 thumbs in 6 patients who underwent radial polydactyly reconstruction using the transposition of duplicated thumb procedure between 2001 and 2017. The procedure was used when one of the thumbs was not obviously dominant over the other, with one having a better proximal portion and the other having a better distal portion. The average age at the time of surgery was 35 months, and at the final follow-up, average age was 86.5 months. Objective outcome values were obtained, and the Japanese Society for Surgery of the Hand evaluation form was adopted to assess functional and cosmetic outcomes.

Results: Neither soft tissue loss nor nonunion of the osteotomy was noted. No patients reported pain or difficulties in their activities. Mean flexion-extension arc for the metacarpophalangeal joint was 72.9° (range, 8.8° extension to 64.1° flexion), and that for the interphalangeal joint was 44.0° (range, 5.7° extension to 38.3° flexion). Mean key pinch, tip pinch, and grip strength of unaffected thumb were 75.1%, 68.7%, and 81.9%, respectively. Total scores using the Japanese Society for Surgery of the Hand scoring system averaged 18.2 points, and the results were excellent in 1 case and good in 5.

Conclusions: Transposition of duplicated thumb can provide durable functional and cosmetic results for Rotterdam types IVand VI with asymmetric radial polydactyly in which neither thumb has adequate distal and proximal components.

(Ann Plast Surg 2019;82: S13–S17)

Peripheral nerve reconstruction: My journey between the bench and the world.

Abstract

Background: To repair peripheral nerve after a segmental defect injury remains a surgical challenge. Due to some disadvantages of nerve graft, some nerve regeneration studies are provided as an alternative, such as conduits combined with adipose-derived stem cells (ASCs).

Hypothesis: Since the original niches or microenvironments of bone marrow mesenchymal stem cells (BMSCs) are under hypoxic condition. BMSCs expanded under hypoxic conditions decrease in senescence; increase in proliferation and differentiation potential into bone, fat and cartilage. Therefore, we are interested if ASCs increase the neuroglial differentiation potential after expansion under hypoxic condition.

Methods: Isolated human ASCs (hASCs) were expanded under hypoxia or normoxia, and proceeded neuroglial differentiation under normoxia. RT-qPCR, immunofluorescence staining, and electrophysiology were employed to compare the differentiation efficiency of hypoxic and normoxic hASCs. Animal model of sciatica nerve injury with segmental defect were used to compare the outcomes of hypoxic and normoxic rat ASCs (rASCs) therapy. Regenerated nerve fibers in the conduits were detected by histological staining.

Results: *In vitro* tests revealed that hypoxia culture enhanced the RNA and protein expression of neuronal markers. The electrophysiology of hASCs differentiated neuron-like cells were also enhanced by hypoxia culture. Animal model exhibited the potential treatment of hypoxic rASCs were better than normoxic rASCs, while the conduit with hypoxic rASCs injection demonstrated the highest recovery rate of ankle degrees and gastrocnemius muscle weights. The numbers of regenerated myelinated axons from hypoxic rASCs that detected by toluidine blue staining were more than from normoxic rASCs.

Conclusion: ASCs cultured under hypoxia increase the potential of neuroglial differentiation both *in vivo* and *in vitro*. It may upgrade the clinical value of ASCs in nerve regeneration, improve the success rate of nerve repair, and may treat other types of peripheral neuropathy.

Silicone Implant Arthroplasty for Bouchard's Nodes

Arisa Okubo
Yuichi Hirase, Hisasuke Onozawa, Mikio Yagishita
Department of Hand Surgery and Microsurgery Center
Yotsuya Medical Cube

Keywords：Bouchard's nodes, Silicone implant arthroplasty, Volar approach technique

HYPOTHESIS

In this presentation I will talk about PIP joint silicone arthroplasty for Bouchard’s nodes. There are two main topics. First, we compared volar and dorsal approaches for proximal interphalangeal (PIP) joint arthroplasty with a same type silicone implant (study A). In this study, we introduce our surgical procedure by video in details. Second, we compared between two types of silicone implants; Avanta and Integra by the same surgical procedure (study B). Avanta is a type of silicone implant with 10-degree bent and Integra has 15-degree bent. Based on these results, I would like to consider the best way of PIP joint silicone arthroplasty for Bouchard’s nodes.

METHODS

We investigated 145 patients (201 joints) who had undergone PIP joint silicone arthroplasty for Bouchard’s nodes by October 2018. In this study, 84 patients (120 joints) could be followed for 6 post-operative months. In the study A, we compare the volar and dorsal approaches with Avanta silicone implants. Seven patients (11 joints) were operated by dorsal approach and 30 patients (47 joints) by volar approach. In the study B, we compare Avanta and Integra silicone implants arthroplasty by volar approach. Thirty patients (47 joints) were operated with Avanta and 47 patients (62 joints) with Integra. Subjective outcomes were assessed using Quick-DASH and VAS. Objective outcomes were collected by measuring ROM, grip strength, total active motion (TAM), and the frequency of post-operative hand therapy they needed after operation. We used Mann-Whitney U test for statistical analysis.

RESULTS

<Study A>

Before operation, there was a significant difference between volar approach Group (Group A) and dorsal approach group (Group B) in grip strength with their median were 13 kg and 20 kg respectively (p=0.004). At the point of 3 post-operative months, there were significant differences in grip strength (14

kg in Group A, 18.5 kg in Group B) (p=0.04) and the active extension angle (-14 degrees in Group A, -20 degrees in Group B) (p=0.007). At the point of 6 post-operative months, there were significant differences in grip strength (17 kg in Group A, 20 kg in Group B) (p=0.03) , the active extension angle (-10 degrees in Group A, -20 degrees in Group B) (p=0.006), and the total active motion (174 degrees in Group A, 156 degrees in Group B) (p=0.005).

<Study B>

Before operation, there was a significant difference between Avanta (Group C) and Integra (Group D) in VAS score on exercise and Quick-Dash score. Their median were 30 and 55 respectively (p=0.01) in VAS score and 29.3 and 25 respectively (p=0.03) in Quick-DASH score. However, at the point of 6 post-operative months, there were no significant differences in these parameters. Concerning to the results of 6 post-operative months, although there was no significant difference in the active extension angle (-10 degrees in Group C, -10 degrees in Group D), the active flexion angle was significantly wider in Group D (74 degrees in Group C, 82 degrees in Group D) (p=0.001). The frequency of post-operative hand therapy needed for 3 post-operative months was less in Group D (19 times in Group C, 12 times in Group D) (p<0.001). The frequency of hand therapy between 3 to 6 months after surgery was also less in Group D (3(2-7) times in Group C, 3(2-3) times in Group D) (p=0.006).

CONCLUSION

Based on the results of the study A, we recommend the volar approach for PIP joint silicone arthroplasty of Bouchard’s nodes. Patients who had undergone surgery by volar approach could get wider extensor angle at 3 post-operative months and significantly wider TAM at 6 post-operative months. It is because the extensor tendon is kept intact in the volar approach and post-operative tendinous adhesion of extensor tendon does not occur.

Concerning the study B, in spite of our expectation that the 15-degree bending type was at a disadvantage in gaining the extension angle because of its larger bent, there was no significant difference between two groups concerning extension angle. And moreover, arc of motion of the 15-degree bending type was wider than that of the 10-degree bending type. We conclude that adequate tension of the central slip of extensor tendon by the larger bend contributes to decrease the extension lag. Considering that it provided equal or better results with less frequency of post-operative hand therapy, we recommend Integra as the choice of silicone implant.

Above all, we recommend use of Integra silicone implant by volar approach

for PIP joint arthroplasty for Bouchard’s nodes.

Tendon Transfers for Ulnar Nerve Palsy – What Works and What Does Not!

Abstract

The loss of extrinsic and intrinsic muscle function following ulnar nerve palsy can lead to significant functional disability. Literature has described a variety of tendon transfers. However choosing between the various transfers can be difficult especially for the junior surgeon. This presentation discusses the functional deficits following ulnar nerve palsy and describes the decision making process in matching a tendon transfer to the deficit. It also discusses the tendon transfers that have worked well in my hands and those that have not worked so well.

Program & Abstract

Saturday, May 11, Sixth Floor Conference Room, E-DA Cancer Hospital

JSSH-TSSH Session		
Time：15:30~17:00		Moderator: Satoshi Toh / Haw-Yen Chiu
TIME	AGENDA ITEM	WHO
15:30-15:55	Pediatric elbow surgeries developed by Japanese hand surgeons.	Hiroyuki Kato
15:55-16:20	Biomechanical evaluation of hand function and rehabilitation.	Fong-Chin Su
16:20-16:45	Revolutions of spinal cord reconstruction using microsurgery.	Yuan-Kun Tu
16:45-17:00	Discussion	
18:00-20:00	***Gala Dinner***	

Pediatric Elbow Surgeries Developed by Japanese Hand Surgeons

Hiroyuki Kato, MD, PhD
Professor and Chairman
Department of Orthopaedic Surgery, Shinshu University School of Medicine
President of the Japanese Society for Surgery of the Hand
Former President of the Japanese Elbow Society

Founded in 1989, the Japanese Elbow Society (JES) may be the only society worldwide that specializes in elbow surgery. The JES has over 1500 members, 85% of which also belong to the Japanese Society of Surgery of the Hand. During these past 30 years, I have endeavored to present papers and involve myself in the development of new pediatric elbow surgical procedures. In the present meeting, I would like to talk about the following three elbow surgeries that were developed by Japanese surgeons：

1. Rotational osteotomy at the diaphysis of the radius in the treatment of congenital radioulnar synostosis (Ogino T, J Hand Surg Br. 1987; Fujimoto M & Kato H, J Pediatr Orthop. 2005)
2. Bone peg grafting and mosaicplasty for capitellar osteochondritis dissecans in teenaged baseball players (Takahara M, Clin Orthop Rrelat Res. 1999; Iwasaki N & Kato H, Am J Sport Med. 2006; Itsubo T & Kato H, Am J Sport Med. 2014; Oshiba H & Kato H, Am J Sport Med. 2016)
3. Annular ligament reconstruction and ulnar osteotomy for fresh or neglected Monteggia fracture (Hirayama M, J Bone Joint Surg Br. 1987; Horii E, J Bone Joint Surg Am. 2002; Nakamura K & Kato H, J Bone Joint Surg Am. 2009)

Biomechanical Evaluation of Hand Function and Rehabilitation

Fong-Chin Su, Ph.D.
Department of Biomedical Engineering and Medical Device Innovation Center
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The hand receives sensory stimuli and executes motor commands that are integrated in the various functional manipulations for daily tasks. Awkward and inefficient finger movements, poor force coordination and strength, sensation deficit of motor control of the affected hands are most common phenomena in patients. We developed the instruments for quantitative measurement of force coordination and sensation of the digits in performing daily activities including pinch holding and grasping. The custom-design simulator with five force transducers which position can be adjusted to record the applied force in natural grasping configuration was applied for understanding of the patients with trigger finger and carpal tunnel syndrome, respectively. As for the patients with carpal tunnel syndrome, they grasped with greater digit force associated with weaker pair-digit correlation and higher force variability on specific digits in different task demands. Also, the custom-designed computerized evaluation and re-education biofeedback prototype was developed to analyze hand grasp performances, and monitor the training effects on hand coordination for stroke patients with sensory disturbance and without motor deficiency. The biofeedback procedures provide visual and auditory cues to the participants when the interactive force of hand-to-object exceeded the target latitude in a pinch-up-holding task to trigger optimal motor strategy. The sensation, force coordination, and biofeedback re-education for the patients with sensory deficits will be presented from biomechanical aspects.

Revolutions of Spinal Cord Reconstruction using microsurgery

Yuan-Kun Tu, MD, PhD, FICS
CEO, E-DA Medical Institutes
Superintendent, Professor in Orthopedics
E-DA hospital / I-Shou university, Kaohsiung Taiwan

Various techniques of nerve transfers (neurotizations) have been developed for the reconstruction of shoulder, elbow and hand function after brachial plexus injury. Both intra-plexus and extra-plexus neurotizations methods had been reported to achieve quite acceptable results in the reconstruction for BPI. Based on the knowledge of BPI reconstruction, the surgical approaches to solve the clinical problems of stroke, hemiplegia, tetraplegia, and paraplegia had been developed in the recent years. We report our series of CC7 transfer for hemiplegia, lower extremity neurotization method for stroke, vascularized nerve graft for tetraplegia and paraplegia, and application of stem cell in combination with above methods. A new horizon has been arising for the future.

Program & Abstract

Saturday, May 11, Fifth Floor Conference Room, E-DA Cancer Hospital

Asia Pacific Session II		
Time：13:30~15:00		Moderator: Yung-Cheng Chiu / Yin-Chih Fu
TIME	AGENDA ITEM	WHO
13:30-13:42	Distal radius fractures: devising for prevention of tendon injury.	Kiyohito Naito
13:42-13:54	Bone and muscle evaluation in patients with a distal radius fracture.	Hyun Sik Gong
13:54-14:06	If we have the fear of tendon injuries after plating for distal radius fractures, why not to protect them?	Hui-Kuang Huang
14:06-14:18	Dorsal plating for distal radius fractures: When and how?	Yi-Chao Huang
14:18-14:30	Prospective study of stage III thumb carpometacarpal joint osteoarthritis treated with arthroscopic arthrodesis.	Chow Esther Ching San
14:30-14:42	Hand infections- Catheter irrigation.	Robert Yap Tze Jin
14:42-15:00	Discussion	
15:00-15:30	***Coffee Break***	

Distal radius fractures：devising for prevention of tendon injury.

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Institutions
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Abstract

Distal radius fracture is a trauma frequently encountered in routine medical practice and osteosynthesis using a volar locking plate (VLP) has recently been increasing for its treatment. However, the VLP is not always a safe device, attention should be always paid to complications of a VLP. Injuries of the flexor pollicis longus (FPL) and the extensor pollicis longus (EPL) are well-described complications of distal radius fractures.

FPL tendon injury markedly reduces the level of daily life and postoperative outcome of the patient and this is recognized as a complication requiring preventive measures. We investigated the positional relationship between the volar bone cortex of distal radius and FPL tendon in the distal radius of healthy subjects using an ultrasonography. The distance between the watershed line (WS) and FPL was 1.7 mm (95 % confidence interval：0.6 - 2.8 mm) and the distance between the distal margin of pronator quadratus (DMPQ) and FPL was 3.1 mm (95 % confidence interval：1.5 - 4.7 mm). Our results suggested the VLP should be in close contact with distal radius, because the distance between the volar bone cortex of distal radius and FPL tendon was very close.

There are various hypotheses for EPL tendon rupture associated with distal radius fractures. In recent years, some cases of EPL tendon rupture early after distal radius fractures have been reported. Therefore, we formulated a hypothesis that EPL tendon damage occurs at the time of fracture injury, and its cause is a physical factor associated with irritation between the EPL tendon and dorsal bone fragment. We investigated EPL tendon injury by visual confirmation of the EPL at the time of osteosynthesis for distal radius fractures. Our results showed a high incidence of EPL tendon injury at the time of distal radius fractures (88%). It may be important to avoid the EPL tendon irritation with dorsal bone fragment in order to prevent EPL tendon rapture.

In our consideration, to make these complications preventable ones, it is necessary to familiarize the anatomy and to investigate the character of complications.

Bone and muscle evaluation in patients with a distal radius fracture

Hyun Sik Gong, MD, PhD
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Distal radius fracture (DRF) is the most common upper extremity fracture in the elderly. Patients with a DRF have a two to fourfold higher risk of a subsequent fracture than those with no history of fractures, and DRFs occur on average 15 years earlier than hip fractures. Therefore, patients with a DRF offer physicians an important opportunity to diagnose and treat osteoporosis to prevent a secondary fracture. In this presentation, I would like to present recent update and the researches done in our institute regarding the diagnosis and treatment of bone and muscle frailty in patients with a DRF. This will include 1) evidence that DRF is an osteoporotic fracture, 2) state of osteoporosis care in patients with a DRF, 3) bisphosphonate use for fracture healing, and 4) vitamin D status and muscle evaluation in patients with a DRF.

If We Have the Fear of Tendon Injuries after Plating for Distal Radius Fractures, Why not to Protect Them?

Abstract
Plating for the distal radius fracture is more and more common in our daily practice as the more advance in the plate design. Different plates are now available to address the different fracture patterns. Surgeons are always doing well in the osteosynthesis with plate fixation, but have no idea to do after the plate setting. Flexor or extensor tendon injuries is one of the complications what we do fear, no matter it is related to the hardware irritation or the fractures per se. This presentation is going to illustrate what else we can do before the would closure in the plating procedure, as well as to highlight the awareness and treatment of the tendon injuries once they happen.

Dorsal plating for distal radius fractures: When and How?

Yi-Chao Huang M.D.
Department of Orthopedics, Taipei Veterans General Hospital, Taiwan

Distal radius fractures are common orthopedic injuries and present one in six fractures seen in the emergency department. Proper management of distal radius fractures necessitates accurate fracture assessment, diagnosis, treatment, and evaluation of outcomes.

Decision making for surgical or nonsurgical approach is difficult and more controversial. Anatomic restoration of displaced, unstable distal radius fracture had been recommended in young patients to achieve best clinical results. Surgical or nonsurgical approach is remained controversial in elderly patients. Several studies have documented excellent results of internal fixation of dorsally displaced distal radial fractures with use of locking implants in elderly individuals.

Most distal radius fracture can be treated with volar locking plate including 89.6% AO C3 type of distal radius fracture. Also with previous poor experience of higher complication rate of using dorsal plate fixation for distal radius fracture, especially of extensor tendons rupture. The popularity of dorsal plate usage is much less then volar locking plate, although with bio-mechanical advantage for Colles' type fracture.

But in particular fracture pattern, such as dorsal die-punch or dorsal barton fracture with intact volar cortex, it's much easier treated with dorsal approach and fixation. We present our cases series of distal radius fracture treated by dorsal plating, the indication, approach, and outcome.

Prospective study of Stage III Thumb Carpometacarpal Joint Osteoarthritis Treated with Arthroscopic Arthrodesis

Introduction
The thumb carpometacarpal joint (CMCJ) osteoarthritis is one of the most common pathology in the hand with controversial treatment options.Arthroscopic thumb CMCJ arthrodesis for CMCJ osteoarthritis had never been reported before. The aim of our study is to prospectively evaluate the effectiveness of arthroscopic arthrodesis for the treatment of Eaton stage III thumb CMCJ osteoarthritis.
Materials and Methods
This study prospectively recruited all cases with Eaton III thumb CMCJ osteoarthritis treated with arthroscopic arthrodesis from January 2015 to December 2017. The patients were evaluated objectively with grip strength, pinch strength, range of motion and Kapandji score. Subjective evaluation include Disabilities of the Arm, Shoulder, and Hand (DASH) questionnaire and the visual analog scores (VAS) for pain. All cases were assessed before the surgery and at 3 months, 6 months and 12 months after surgery. Radiographs were reviewed.
Results
There were total 13 patients with 15 arthrodesis performed (2 cases with bilateral surgery done). The average age was 62.2 with M：F = 2：11. The average follow-up time was 29.2 months (14-46months). The pre-treatment pain score (VAS) was average 6.3. There was improvement of pain score at post-op 3 months (VAS 2.8, $p<0.001$), 6 months (VAS 1.1, $p<0.001$) and 12 months (VAS 0.2, $p<0.001$). There was improvement of grip strength and pinch strength at 12 months ($p<0.001$). The Dash score showed improvement as early as at 3 months ($p=0.01$). There was no significant change in the range of motion of the thumb and the Kapandji score. There was no major complication such as infection or implant related complication. There was one case of pseudoarthrosis (6.7%)
Conclusion
This prospective study is the very first report of thumb CMCJ arthroscopic arthrodesis for stage III thumb CMCJ osteoarthritis. Arthroscopic arthrodesis

is a feasible treatment option and provides excellent pain relief, restore thumb strength and stability, retain thumb mobility, and hence improvement in hand function.

Advantages of arthroscopic arthrodesis include：1) allow clear assessment of joint before decided for fusion; 2) Small scar and minimal disturbances of surrounding joint capsule and soft tissue; 3) Avoid tendon adhesions and 4) better preservation of blood supply resulting in better union rate.

Future study is needed for long term results.

Hand infections- Catheter irrigation

Hand infections are common condition seen by all hand surgeons in our daily practice. The use of catheter irrigation for suppurative flexor tenosynovitis of the hand was first described by Unonius in 1947.

There have multiple variations described after with the addition of open incision, continuous irrigation to addition of antibiotics to irrigation solution. In our hospital setting now, the immune- compromised patinets is one specific patient group whom are more vulnerable to hand infections.Immune-compromised individuals may not present with the typical signs and symptoms of an acute infection making early diagnosis difficult. Soft tissue defect and stiffness in these individuals may make it more difficult to treat.

This is to report the use of cathether irrigation of hand infections our tertiary hospital.

Patients with infection in the hand, with minimal evidence of subcutaneous ischemia are put on irrigation catheter and started on empirical antibiotic which then is converted to culture targeted antibiotics once the initial cultures are out. The outcome of these cases are then charted and reviewed

Program & Abstract

Saturday, May 11, Fifth Floor Conference Room, E-DA Cancer Hospital

TSRM		
Time：15:30~17:00 Moderator: Chwei-Chin Chuang / Chih-Hung Lin / Chih-Hao Chang		
TIME	AGENDA ITEM	WHO
15:30-15:45	Anatomy and diagnosis.	Po-Cheng Huang
15:45-16:00	Cardiovascular medical doctor viewpoint.	Ren-Kwan Lee
16:00-16:15	Venous insufficiency.	Hao-Chih Tai
16:15-16:30	Crushing lower leg.	Chih-Hung Lin
16:30-16:45	Lymphatic insufficiency.	Hung-Chi Chen
16:45-17:00	Discussion	
18:00-20:00	***Gala Dinner***	

Program & Abstract

Saturday, May 12, Sixth Floor Conference Room, E-DA Cancer Hospital

Tu's Club workshop on BPI and extremity reconstruction		
Time：08:30~10:15	Moderator: Yuan-Kun Tu / I-Ming Jou	
TIME	AGENDA ITEM	WHO
08:30-08:45	Relationship of distal radius fracture between osteoporosis and sarcopenia	Takuya Yoda
08:45-09:00	Treatment Strategy of iatrogenic nerve injury around the wrist joint.	Hayato Kuno
09:00-09:15	The preoperative planning and treatment for upper extremities using bioabsorbable plate and 3D printer.	Yukichi Zenke
09:15-09:30	Upper limb amputation and prosthetics: What's new and what we can do?	Hyun-Joo Lee
09:30-09:45	Distal nerve transfer for upper limb reconstruction.	Kanit Sananpanich
09:45-10:00	Surgical treatment of the painful thumb.	Jacqueline Tan Siau Woo
10:00-10:15	Discussion	
10:15-10:45	***Coffee Break***	

Relationship of distal radius fracture between osteoporosis and sarcopenia

Niigata University Hospital
Takuya Yoda

INTRODUCTION
Distal radius fracture (DRF) is one of fragility fractures caused by falling down. Sarcopenia is an age-related decline in skeletal muscle mass as well as muscle function. Sarcopenia increases the risk of falls. We analyzed the relationship between DRF and osteoporosis, sarcopenia.
METHODS
Forty-nine consecutive patients from 54 to 88 years with DRF were enrolled. The age, body mass index (BMI), serum 25-hydroxyvitamin D (25 (OH) D), contralateral grip strength were investigated. They also underwent dual-energy x-ray absorptiometry (DXA) scans of the whole body. Body composition was analysed using DXA analysis software. The bone mineral density (BMD) of the lumbar spine and hip were determined by DXA. Skeletal muscle index (SMI) was calculated as appendicular skeletal muscle mass (ASM) divided by the square of the height (kg/m2). Additionally, the SMI of the legs was calculated. Reference values for class 1 and class 2 sarcopenia were defined as values 1 and 2 SD below the sex-specific means of the study reference data for young adults aged 18 - 40 years.
RESULTS
The mean value of age was 70.3 ± 10.0 years, BMI was 21.4 ± 4.0 kg/m2, 25 (OH) D was 17.6 ± 8.5 ng/ml, contralateral grip strength was 19.4 ± 4.8 kg. The BMD of lumber spine and hip were 0.68 ± 0.14 g/cm2 (-3.15 SD) and 0.53 ± 0.12 g/cm2 (-2.20 SD). The total SMI was 5.80 ± 9.9 kg/m2 (-1.48 SD), and leg SMI was 4.36 ± 0.77 kg/m2. The prevalences of class 1 and class 2 sarcopenia were 31.2% and 29.2%.
A positive correlation between BMI and SMI was observed. There was also a positive correlation between 25(OH)D and SMI. The correlation between BMD of lumber spine and SMI and the correlation between BMD of hip and SMI were low.
DISCUSSION
Sarcopenia and osteoporosis are significant health problem for

postmenopausal women. In this present study, 31.2% of women with DRF was class 1 sarcopenia and 29.2% of that was class 2 sarcopenia.

It has been reported that low 25 (OH) D levels could increase the risk of sarcopenia. The 25 (OH) D levels of patients in the present study were low and there was positive correlation between 25 (OH) D and SMI.

CONCLUSION

The prevalence of sarcopenia in the patients with DRF was high. The patients with DRF have high risk of fall and secondary fractures.

Treatment Strategy of iatrogenic nerve injury around the wrist joint.

Hayato Kuno, MD.
Hand and Microsurgery Center, Dept. of Orthopedic Surgery, Kameda Medical Center.

While the treatment of trauma and degenerative disease around the wrist joint are progressing with the times and minimally invasive technique is attracting attention, nerve injuries which is also a harmful effect of these treatments can occasionally occur. Injury of dorsal branch of radial or ulnar nerve which occurs after surgery of distal radius fracture, CMCJ arthroplasty or TFCC arthroscopic repair will be typical. Unfortunately, these nerve injures tend to be less properly treated early. This is because the surgeon tends to underestimate the complaints and pain after surgery,
while patients who are irritated by the fact that the symptoms do not change frequently change medical facilities.
Chronic pain and numbness caused by such influences becomes very refractory, shows resistance to conservative treatment, and greatly hinders ADL of the patient.
Refractory pain and allodynia which resistance to conservative treatment is imperative indicator of the surgical intervention. For such cases, the author performs nerve repair and flap coverage by identifying the problem of the patient using a step by step approach.
Each step is as follows, Step1： Identification of injured nerve, Step2： Confirmation of the extent of wound scar and skin atrophy, Step3： Identification of the presence of
allodynia, extent of abnormal sensation, Step4： Planning of nerve repair procedure and examination of necessity of additional flap surgery.
The clinical result after surgery depends on case.
Although the course of cases with early treatment after nerve injury and mild scarring is generally good, it is often difficult to obtain cure in chronic cases, severe scarring or atrophy. Flap coverage is very effective in covering the repaired nerve and preventing further scarring for cases with severe atrophy or scarring.

The preoperative planning and treatment for upper extremities using bioabsorbable plate and 3D printer.

Yukichi Zenke, Naohito Sato, Kenji Kosugi, Yasuaki Okada, Takafumi Tajima, Yoshiaki Yamanaka, Akinori Sakai
Department of orthopaedic surgery, University of occupational and environmental health, Japan

Abstract
Failing to plan is planning to fail (by AO text book). That is to make a correct preoperative plan is to be a shortcut to the correct answer. There is no objection that preoperative planning is important in treating in orthopedic trauma especially for upper extremities. In our hospital, young doctors are instructed every day to plan carefully when preoperative planning. In addition, we introduced 3-dimensional (3D) printer (Pro jet 360 manufactured by Toyotsu Machinery Co., Ltd.) in 2015. This makes it possible to create a 3D real model in our hospital and effectively utilizes it in preoperative planning. In addition, we have applied bioabsorbable plates (Super Fixorb MX 40 ; Mesh manufactured by Takiron Co., Ltd., J & J Co., Ltd.) mainly in the field of upper limb fracture since 2008. In this presentation, I will present the cases with our clinical cases of preoperative planning using 3D model and simulation software, and bone fracture treatment method using bioabsorbable plate while discussing the future prospects.
In the future, in addition to preparing 3-dimensional preoperative planning, custom guide plates using 3D printers and CAD software, we will continue to prepare these custom-made plates with bioabsorbable materials I would like to recommend clinical application.

Upper limb amputation and prosthetics; What's new and what we can do

Hyun-Joo Lee MD
Department of Orthopedic Surgery, Kyungpook National University Hospital, Daegu, Korea

In contrast to lower limb amputees, which usually affect elderly patients with diabetic vasculopathy, upper limb amputees are mostly related to work. They are mainly young, otherwise-healthy patients. To overcome the defect, patients usually use a nonfunctioning but esthetic prosthesis even though the myoelectric prosthetic arm has gained popularity with the advantage of multiple motions. The reason upper extremity prosthesis has not been widely used is that the function of prosthetic arm is not comparable to the original body part. However, state-of-the-art technique is approaching to prosthesis with substantial hand function. Since Kuiken et al. described targeted reinnervation (TR) surgery, intuitive motor control became available. Moreover, the patient who underwent TR surgery reported restored sensation in the pectoral area (1). The restored sensation has been used to provide haptic feedback. After the first and second steps, many researchers have developed new techniques such as split muscle for more EMG sites (2), regenerative peripheral neural interface (RPNI) (3), and even direct neural signal analysis (4).

Recently, placing the EMG electrodes within the muscles rather than on the surface of the residual limb has been proposed. However, problems of powering internal electrodes and the foreign body reaction are still being investigated. Osseointergration prosthesis also has been successfully used in Sweden (5).

Amputation has been considered easy and the first step surgery for novice surgeons. However, regarding the development of prosthesis, surgeons should consider more about the afterwork of amputation surgery. When patients who had a traumatic amputation or who wait elective amputation due to tumorous condition or ischemic condition, surgeons should consider not only the amputation but also prosthetic choice after surgery. Targeted reinnervation surgery during the first amputation surgery can be possible, which can be done as a secondary surgery. This procedure might relieve the

neuropathic pain from the exposed nerve end and can provide EMG sites in the future. In terms of relieving the neuropathic pain and phantom pain, TR and RPNI both were proven as excellent options (6, 7). In addition to relieving pain from amputation limb, the surgeon who performs amputation should consider future use of high technology prosthesis. For example, longer limb length may optimize pronation and supination, the condition of the distal stump skin is also important. With pain when wearing the prosthesis, the patients would not wear the prosthesis itself. Therefore, when surgeons perform the initial amputation, to make a pain-free residual limb should be considered with healthy skin.

Distal nerve transfer for upper limb reconstruction

Dr.Kanit Sananpanich
Professor, Department of Orthopedics, Chiang Mai University, Thailand

Distal nerve transfer has gained popularity recently by its rapid recovery and unnoticeable deficit. The main factor is anatomical knowledge of transferring the donor nerve very close to target muscle, which reduces regenerate time for axonal growth to the end organ. The donor nerve should be one of several nerves in similar role leads to usage with functional replacement by other nerve. The role of recipient nerve should be very important enough to sacrifice the donor. There are several interesting nerve transfers such as: pronator quadratus branch of median transfer to ECRB, ECRB to anterior interosseous nerve, ECRB to ulnar FDP motor branch, supinator branch of radial transfer to digital extensor of posterior interosseous, triceps branch of radial nerve transfer to axillary deltoid branch, or even deltoid branch transfer to triceps in opposite manner. The other benefit of distal nerve transfer comparing to tendon transfer is breakthrough limitation of donor muscle. For example, pronator quadratus or supinator has never been used in tendon transfer because of their anatomical limitation. But in distal nerve transfer, the nerve of those two muscles can be used.

One most important limitation of distal nerve transfer is timing, which require early period of reconstruction before the end organ degeneration occur which sensory is more last long than the muscle.

The concept of distal nerve transfer can be applied in brachial plexus injury, peripheral nerve injury, and central nervous deficit such as spinal cord injury.

Surgical Treatment of the Painful Thumb

There are many surgical procedures available to treat trapeziometacarpal osteoarthritis. These include simple trapeziectomy, trapeziectomy with ligament reconstruction and tendon interposition, carpometacarpal arthrodesis and joint replacement. Each procedure is associated with its complications. A review of the literature does not seem to reveal any surgical technique to be superior to another. Controversy still exist regarding which technique offers the best outcome. There is also still no consensus as to which clinical outcomes are the most important in thumb basal joint surgery.
This lecture will present a discussion of the pros and cons of the different surgical options, a review of the available literature, and the author’s experience with the various techniques over the years.

Program & Abstract

Saturday, May 12, Sixth Floor Conference Room, E-DA Cancer Hospital

Guest society speech I , II		
Time：15:30~17:00		Moderator: Satoshi Toh / Haw-Yen Chiu
TIME	AGENDA ITEM	WHO
10:45-11:15	Extensor and flexor tendon repair and reconstruction in the hand.	Hiroyuki Kato
11:15-11:45	My favorite procedures in congenital cases.	Satoshi Toh
11:45-12:00	***TSSH Ambassador Reports***	
12:00-12:30	***General Assembly***	
12:30-13:30	***Lunch***	

Extensor and flexor tendon repair and reconstruction in the hand.

Hiroyuki Kato, MD, PhD
President of Japanese Society for Surgery of the Hand
Department of Orthopaedic Surgery, Shishu University School of Medicine

I would like to present our surgical procedures of repair and reconstruction in the hand by introducing our English published literatures.

Extensor tendons are often ruptured due to osteoarthritic changes at the DRUJ by friction between the displaced distal end of the ulna and osteophytes of the DRUJ (J Hand Surg, Br. 1991). We analyzed the radiographic morphology of the DRUJ to identify the risk factors for this complication using 41 wrists X-rays. The scallop sign, dorsal inclination of the sigmoid notch and radial shift of the ulnar head are radiological risk factors for extensor tendon ruptures (J Hand Surg Eur, 2008). Next, we reported the postoperative results for reconstruction of finger extensor tendon rupture due to DRUJ lesion using 74 index, middle, ring, or little fingers with extensor tendon rupture of 34 hands. We observed that postoperative extension lag was significantly larger in fingers associated with extensor tendon rupture in two or three additional fingers in the affected hand or in fingers of patients aged 80 years or over (J Orthop Sci, 2016).

For repairing extensor pollicis longus (EPL) tendon ruptures, both extensor indicis proprius tendon transfer (EIP TT) and free tendon graft to EPL (EPL TG) are considered a gold standard However, determination of the optimal tension in these two methods has remained controversial. We treated 20 patients with EPL tendon ruptures by EPL TG in 7 and by EIP TT in 13 patients using novel tension determining technique. Mean TAM was achieved to 90%. Active flexion deficit was 10 degrees. Our novel tension technique is easy and applicable for both EPL TG and EIP TT.

In young children, methods of primary flexor tendon repair in the digital canal are controversial. We reviewed 12 children younger than age 6 years with zone 2 flexor tendon repairs. In all cases, the flexor digitorum profundus tendons were repaired according to the Kessler modified technique and an above-elbow cast immobilized the hands in tendon reducing position. The TAM percentage averaged 89%. 11 patients had an excellent result and one had a good result (J Pediatr Orthop. 2002). We retrospectively reviewed the

long-term clinical outcomes of one-stage flexor tendon grafting by Pulvertaft's procedure for 7 children with neglected isolated FDP tendon injuries in Zones 1 or 2. The ages of the patients at reconstruction ranged from 7 to 15 years. The TAM was on average 237°. One-stage flexor tendon grafting in pediatric patients combined with early controlled mobilization can be used to reconstruct neglected isolated ruptures of the FDP tendon with satisfactory results (J Hand Surg Eur Vol. 2011).

Ten patients had intrasynovial tendon grafting harvested from the toes for secondary flexor tendon reconstruction in nine fingers and one thumb. These patients were followed for a mean of 15 months. The ranges of TAM of the PIP & DIP joints of these nine fingers were 143°and of the MCP & IP joints of one thumb were 110°. This technique is feasible and gives a good result when successful but with a high complication rate (J Hand Surg Eur. 2017).

My favorite procedures in congenital cases

Satoshi Toh, MD, PhD
Director of Hirosaki National Hospital, National Hospital Organization
Emeritus Professor of Hirosaki University
Hirosaki, Japan

The objectives of my presentation are to talk about my favorite procedures for patients with congenital cases and discuss about long-standing outcome.

1. Ulnarization for the club hand

For radial club hand, problems in previous procedures are recurrent deformity and growth arrest of the distal ulna in a very high percent of cases. On the other hand, ulnarization originally developed by Palley D. in 1999 demonstrated no recurrence or growth arrest. Our cases which were followed for over 10 years also showed no recurrence.

2. Thumb reconstruction using the original hypoplastic thumb

For Blauth type IV and V, many studies report the usefulness of pollicization. However, in Japan, many parents wish to keep the number of fingers and few parents desire this pollicization procedure. In these cases, we recommend thumb reconstruction using the original hypoplastic thumb with free fibula bone graft and pedicled abdominal flap.

Informed consent and good understanding of the expected results from the parents are very important when planning these procedures.

3. Restoration of forearm rotation in cases with Congenital radioulnar synostosis.

Congenital radioulnar synostosis is difficult to treat because surgical release alone usually results in recurrence in the majority of cases. In 1998, Kanaya reported free lateral arm fat-flap interposition with good results.

We have used posterior interosseous artery adipofascial flaps, which don’t require vascular anastomosis since 1996. In our study, average total forearm rotation angle was 85 degrees at 12 months after the surgery although it was lesser at the final follow-up.

One of the problems of manipulation is the difficulty of osteotomy, in which the radial head becomes concentric to the capitulum in both pronation and supination. Instability of the radial head may cause decrease of ROM.

4. Vascularized fibula graft (VFG) for the congenital pseudarthrosis of the tibia.

As to the congenital pseudarthrosis of the tibia, in many reports on the

short-term union rate, almost 90 to 100% success in VFG or Ilizarov bone transport have been reported. However, the brace is necessary until maturity after Ilizarov methods. Some reported that lifetime protection with intramedullary devices, braces or a combination of both is recommended.

On the other hand, in our 11 consecutive patients treated by VFG in which the average follow-up length is 19.6 years, 10 patients could walk without brace. And 6 of these 10 patients achieved walking without brace from the average of 17 months after the initial operation. From QOL's point of view in Children, VFG is far superior to other procedures.

Most important point is reconstruction of lower extremity in proper alignment and enough strength mechanically. Using the Ilizarov External-Fixator for postoperative immobilization is preferable not only in the primary operation but also for delayed union case or complicated cases after VFG.

In conclusion, in congenital cases, we must consider the reconstruction thinking growth, the cautious plan including back-up procedure, and quality of children's life. Of course, a long-standing follow-up until matured is necessary.

Program & Abstract

Saturday, May 12, Sixth Floor Conference Room, E-DA Cancer Hospital

Instructional Course-plasty Bone and joint reconstruction		
Time：13:30~15:00		Moderator: Chih-Hung Lin / Yu-Te Lin
TIME	AGENDA ITEM	WHO
13:30-13:42	Finger joint contracture release, the literature review and our preliminary results of joint capsule resurfacing.	Che-Hsiung Lee

13:42-13:54	Iliac crest is a versatile donor site for bone grafting in upper extremity reconstruction.	Ren-Wen Huang
13:54-14:06	Boutonniere deformity: Review and management.	Shih-Heng Chen
14:06-14:18	Versality of medial femoral condyle flap for phalangeal and metacarpal bone reconstruction.	Chung-Chen Hsu
14:18-14:30	A novel technique for correcting extensor lag in vascularized toe PIP joint transfers.	Yu-Te Lin
14:30-14:42	Functional reconstruction of thumb ray composite MPJ and thenar muscle defect using toe joint transfers.	Chih-Hung Lin
14:42-15:00	Discussion	
15:00~	***Adjourn***	

Finger joint contracture release, the literature review and our preliminary results of joint capsule resurfacing

Che-Hsiung Lee, MD[1,2], Chung-Chen Hsu, MD[1,2], Cheng-Hung Lin, MD[1,2], Shih-Heng Chen[1,2], Chen-Te Wu, MD[2,3], Charles Yuen Yung Loh, MBBS MSc MS MRCS[1,2,4], Yueh-Hsia Chen, PT[5], Yu-Te Lin,MD, MS[2,6]

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Abstract

Background

Finger joint contracture is a challenging situation, which usually happened after the traumatic episode, impairing the function of the hand. In the literatures, there have been many methods discussing joint contracture release and their benefit and limitation. Here we review the literatures and provide our innovative idea using pedicled adipofascial flap to resurface the joint capsule after capculotomy.

Materials and Methods

A literature review was performed using MEDLINE (PubMed), EMBASE, and the Cochrane Collaboration Library for primary research articles on finger joint contracture and surgical release as the key word. In our retrospective study, we included patients with capsulotomy either of PIPJ or MCPJ with or without adipofascial flap reconstruction from January 2010 to January 2019. The outcome measurement was compared.

Results

The literature was reviewed and the results will be provided. Joint release combined with adipofascial flap technique was performed in 8 cases of MCPJ and 10 cases of PIPJ.

In the PIPJ group, greater extension lag improvement was observed compared to control group (37.0±19.2°, vs. 21.0±19.5°, p=0.055). The ratio of improvement was also significantly higher in the group with flap reconstruction (0.79±0.26 vs. 0.49±0.46, p=0.049).

For the MCPJ release, the pre-operative active motion of the involved joints was from 0 to 35 degrees. The final active motion was from 55 to 82 degrees. The improvement of active motion was from 40 to 70 degrees.

Conclusions

From the literature review, the joint stiffness release is still challenging and the results were generally unsatisfactory. From our preliminary study, the adipofascial flap group provides an encouraging results in terms of motion gain and time of recovery when compared to the conventional release alone.

Iliac crest is a versatile donor site for bone grafting in upper extremity reconstruction

Ren-Wen, Huang MD, Chung-Chen Hsu MD, Yu-Te Lin MD, Shih-Heng Chen MD, Cheng-Hung Lin MD

Abstract:
Bone grafting in upper extremity has many choices. Understanding the properties of osteoconductivity, osteogenicity, and osteoinductivity guides treatment options. Donor site morbidity, the amount of bone graft, and the characteristics of bone graft also are important factors. Iliac bone is one of the most common bone grafts which is used in upper extremity reconstruction. In this talk, I will introduce the structure and properties of iliac bone, donor site morbidity when harvesting iliac bone graft and its role to be as non-vascularized bone graft (corticocancellous bone graft, cancellous bone graft), and vascularized bone graft (pedicled iliac bone flap, chimeric pedicled iliac bone flap with groin flap), and free iliac bone flap.

Boutonniere Deformity: Review and Management

Authors: Shih-Heng Chen [1], Cheng-Hung Lin[1], Yu-Te Lin[1], Chung-Chen Hsu[1], Ren-Wen, Huang[1] Hung-Chi Chen[2]

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Purpose

While hand injuries occur frequently, boutonniere deformities are infrequently encountered. A boutonniere deformity is defined as a flexion deformity at the PIP joint with a hyperextension deformity at the DIP joint. The deformity results from disruption or attenuation of the central slip and triangular ligament of the extensor mechanism. Boutonniere deformities represent diagnostic challenges and can result in significant impairment. Early recognition with appropriate treatment is necessary to maximize recovery and minimize the down time. This review will focus on the underlying mechanism, pathophysiology, diagnosis, and treatment of these injuries.

Materials & Methods

Literature from 1990s to 2019 were reviewed. Cases from Chang-Gung Memorial Hospital from 2010~2018 were retrospectively collected and sorted based on chronicity of the injury as well as different surgical methods.

Results

With respect to boutonniere deformities, the recent literature has been limited in scope, and mostly were case reports or series. Prevention of fixed deformities remains the backbone of treatment. In acute cases, if there is no loss of substance, direct repair is favored; if direct repair is not feasible, using slips of lateral bands, central slip turnover technique, FDS slip graft, or even tendon graft could be attempted. In chronic cases, supple DIP and PIP joints should be obtained either with rehabilitation or surgery prior to central slip reconstruction.

Conclusions

Current treatment is mostly guided by historically established methods, limited case series, and case reports. Nonsurgical treatment remains the mainstay for most injuries and, if employed early, often precludes the need for surgery. Further anatomical and clinical research, especially outcome studies, is necessary in guiding treatment algorithms.

Versality of medial femoral condyle flap for phalangeal and metacarpal bone reconstruction

Background: The medial femoral condyle (MFC) flap has become a popular option for small bone defects or calcitrant nonunions. The potential of chimeric design also provides flexibility and versality for bone reconstruction. We aim to describe outcomes after MFC flap treatment of phalangeal or metacarpal bone defects.
Methods: A retrospective chart review was performed on all patients undergoing Free MFC flaps by between March 2012 and August 2018.Patient demographic data intraoperative, and postoperative data were collected.
Results: We identified 12 patients for inclusion (8 phalangeal bone and 4 metacarpal reconstructions) treated with the MFC flap for diagnoses including bone defect (8) bone tumor (2), congenital deformity (1) and nonunion (1), There were 7 males and 5 females, aged from 4 to 54 y/o (28.8 years in average). Follow-up time was from 2 to 34 months (10.6 months in average). With regards to the flap design, there were 3 chimeric osteocutaneous flaps, 7 periosteocancellous flaps, 2 periosteal flaps. Bone union were achieved in all the patient at 5 to 18 weeks postoperatively (8.1 weeks in average). There were no intraoperative flap complications or donor site morbidity.
Conclusions: Phalangeal or metacarpal bone reconstruction using the MFC flap results in a fast bone regeneration and union with minimal donor morbidity.

A Novel Technique for Correcting Extensor Lag in Vascularized Toe PIP Joint Transfers

The use of the vascularized toe proximal interphalangeal joint transfers (VJTs) allows for restoration of powerful pinch/grasp and range of movement of a PIPJ in the hand. However, because of the lack of central slip insertion in the majority of toes, the reconstructed PIPJ often results in extension lag. Extension lag associated with poor central slip formation in the lesser toes can be corrected by using central slip reconstruction with the Stack procedure in our earlier practices. However, such methods are often cumbersome and involve extensive dissection and soft tissue manipulation. We present a novel, reproducible, simple yet effective technique in recreating the insertion point of the extensor tendon in the reconstructed PIPJ, hence correcting the issue of extensor lag in vascularized toe joint transfers. The crux of this technique empowers the surgeon with the ability to correct inherent extensor lag of toes in VTJs. This will hence nullify “toe PIPJ angles” as a preselection criteria in determining patients suitable for VJT, thus enabling more patients to benefit from VJTs.

Program & Abstract

Saturday, May 12, Fifth Floor Conference Room, E-DA Cancer Hospital

Instructional Course - ortho **Complex elbow injury**		
Time：13:30~15:00	Moderator: Kao-Shang Shih / Yin-Chin Fu	
TIME	AGENDA ITEM	WHO
13:30-13:45	Management of post-traumatic stiff elbow.	Yung-Cheng Chiu
13:45-14:00	Posterior global approach for the treatment of terrible triad injury of the elbows: A single surgeon series of 74 Cases.	Ying-Chao Chou
14:00-14:15	Arthroscopic total capsulectomy for posttraumatic elbow stiffness.	Wei-Hsing Chih
14:15-14:30	Management of failed treatment of elbow fracture-dislocation.	Ching-Hou Ma
14:30-14:45	Surgical treatment for Essex-Lopresti injuries—cases report.	Jui-Tien Shih
14:45-15:00	Discussion	
15:00~	***Adjourn***	

Management of Post-Traumatic Stiff Elbow

【Introduction】

Elbow is a highly constrained synovial hinge joint that frequently becomes stiff after injury. Stiff elbow is challenging to treat, and therefore prevention is of paramount importance. A stiff elbow has been defined as one with flexion of less than 120° and a loss of extension of greater than 30° (flex-extension arc of motion <100°) or supination-pronation arc of ROM<100°. The etiology includes abnormalities of bone, soft tissue, or a combination of both.

There are some techniques for treatment of stiff elbow including medial/ lateral approach, arthroscopic technique. We reviewed the result of our 35 cases stiff elbow open release and trying to conclude some treatment strategies.

【Materials and Methods】

From 2011 Jul. to 2017 Jul., 33 patients (female:10, male:23, age: 15-65y/o) with stiff elbow (persisted over 6 months) received treatment in our hospital. 5 pts received one approaches (for PRUJ rotational stiffness) and 25 pts received bil. Approaches（medial and lateral）. One patient receive TEA accompany with elbow release surgery. One patient received ALT flap coverage after scar tissue release. One patient received anconeous flap insertion for PRUJ synostosis formation. All patients were recorded with clinical examination, ROM of elbow joint (flex-extension, supi-pronation), DASH score, and X-ray examination.

【Results】

All patients were followed at least 6 months. All patients had improvement in elbow motion (average 35° increase in flex-extension; 40° in sup-pronation). Our functional results were found to be satisfactory in all of patients.

【Discussion and Conclusion】

Taking into consideration the high rate of success and low rate of complications in our experiences, highly recommended open elbow release is a good option for treating posttraumatic elbow stiffness.

Posterior Global Approach For The Treatment Of Terrible Triad Injury Of The Elbows: A Single Surgeon Series Of 74 Cases.

Ying-Chao Chou
Orthopedic Department of Chang Gung Memorial Hospital, Linkou Devision, Taiwan ,R.O.C

Abstract:

Background: With less availability of the elbow hingled external fixators and less acceptabilty of direct radial head prosthesis applications in Taiwn sociaty, orthopedic surgoens in Taiwan take more challenges while threating terrible triad injuries of the elbows. This study aims at analying retrospectively the radiaographic results and clincial outcomes of surgical treatment of the terrible triad fracture-dislocations of the elbow joint routinely through the posterior approach by a single surgeon.

Materials and Mthods: From 2008 to 2016, a group of 74 patients were included in this retrospective analysis. Under lateral decubitus position, they underwent the posterior elbow surgical approach for treating terrible triad injury of the elbows. Beside the standard surgical protocal of the surgical management of the coronoid process, radial head, and the lateral collateral complex, all the case were assessed with or without treatment of the medical collateral ligment coinsidently through this global approach. By the regular clincal follow-ups, the patients were evaulated by the Disabilities of the Arm, Shoulder and the Hand (DASH) score, range of motions, radiographic results, the degree of patient's satification, and complications.

Results: The average age of the patients was 43.3 years (18 to 74) with 48 male and 26 femlae pateints. There were a higher incidences of Mason type II to III radial head fractures and Regon/Morrey type I to II coronoid fractures. There were 22 cases (29%) sustained direct radial head prosthesis implantantation while 50 cases (68%) underwent ORIF and 2 (3%) partial radial head resection. 42 cases (56%) were done of coronoid tip excision and the other 30 cases (40%) with osseous suture repair of coracobrachial complex complex (CBCC). All case (100 %) underwent lateral collateral complex repair and 52(76%) with MCL anchor suture repair. The average

range of motion with flexion 127.3 degree and extension 15.6 degree, the average of pronation and supination were 64.5 and 63.1 degree respectively. The mean DASH score was 11.9. There were 3 cases with mild wound infection with adequate control by antibiotics IV injection treatment, Two cases sustained repeat subluxation of the elbow, one due to psychologic poor post-operative cooperation and one due to secondry trauma.

Conclusion: With relatively aggressively medial collateral ligament repair superimposed on the stanadrd treatment of bony managemnet on radial head and coronoid fracture and lateral complex treatment, the patients in our series can got a stable elbow joint with an acceptable clinical result without the requirement of the hinged extermal fixator application.

Arthroscopic total capsulectomy for posttraumatic elbow stiffness

遲維新, 江振豪,
嘉義基督教醫院骨科部 運動醫學及肩肘外科

Introduction

Elbow stiffness happened not infrequently after elbow injury, including fracture or dislocation. Restoration of motion of the posttraumatic stiff elbow can be a difficult, time-consuming, and costly challenge. Arthroscopic total capsulectomy of stiff elbows has been routinely performed by the author since 2005 in 20 patients. The outcome was assessed and the surgical technique presented.

Materials and methods

Since 2005, arthroscopic total capsulectomy was performed in 20 patients with posttraumatic elbow stiffness, at mean age of 35.7±15.8(13~70) y/o; 15(75.0%)were male. The mean time from injury to surgery was 10.6±8.6(4~40) months.

Results

Before the arthroscopic procedure, the mean flexion was 92.9±13.6(60~120), extension was 33.5±11.8(10~50), and total ROM was 59.4±14.7(30~80), and after surgery, flexion improved significantly to 120.0±11.0(95~130), extension to 17.4±10.9(0~40), and total ROM to 102.6±14.0(70~125). There are superficial pressure sore from torniquet in 1 patient and transient ulnar neuropathy in 1 patient. No other major complication happened.

Discussion

Open release has traditionally good clinical outcomes. However, open release leaves large scars and causes increased soft tissue trauma, which may lead to contracture recurrence and can delay the progress of physiotherapy programs. Elbow arthroscopy offers less tissue damage from operation, reduced pain, smaller scars, accelerated rehabilitation, and shorter hospital stay. Disadvantages of elbow arthroscopy include the inability to deal with ulnar nerve disease or heterotopic ossification and the difficulty of the procedures.

Conclusion

Arthroscopic capsular release with debridement and total capsulectomy is a safe and an effective treatment for posttraumatic elbow contracture, with pronounced benefit and predictable result.

Management of failed treatment of elbow fracture-dislocation

Ching-Hou Ma
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Taiwan

Abstract

Complex elbow fracture-dislocation, with injuries to osseous and ligaments structures, is an important cause of instability of the elbow. The most common treatment is internal fixation and ligament repair with the aim to restore bone-articular surface and joint stability. However, it is technically challenging even for experienced surgeons performing multiple procedures around the elbow joint. Inappropriate treatment can lead to the frequent presence of coexisting problems such as elbow stiffness, residual instability or re-dislocation, nerve injuries, fixation failure, heterotopic bone and early arthritis. Although several treatment options have been discussed to address all the coexisting problems and the standard treatment is still unavailable. Elbow stiffness is the most common complication of elbow fracture-dislocation. Complete open release of elbow and reconstruction associated injuries has recently gained widespread acceptance for treating severe elbow stiffness, but the surgical procedure may lead to elbow instability. Current options for treating elbow instability include bony and/or ligamentous fixation with orthosis or cast immobilization, transarticular cross-pinning, temporary bridge plating, and hinged or rigid external fixation. Orbay et al designed a hinge elbow internal stabilizer using a temporary Steinmann pin bent and placed through the axis of the ulnohumeral joint then attached to the proximal ulna for treating instability of the elbow. This technique restores elbow stability and permits motion, it seems promising for the treatment of patients with severe elbow instability. Herein, we developed a protocol through posterior approach for treating these elbow stiffness patients who was failed treatment of elbow fracture-dislocation. The treatment protocol are to solve the difficult problems step-wise manner that comprise ulnar nerve neurolysis, joint release, remove heterotopic bone, reduction elbow joint dislocation, repair bone and ligament, hinge elbow internal joint stabilizer and early rehabilitation. In the present retrospective study, we aimed to analyze the results of patients who received our newly introduced treatment protocol.

Surgical Treatment for Essex-Lopresti Injuries—Cases Report

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Department of Orthopaedic Surgery
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Background:
Essex-Lopresti injury is a rare and disabling condition of longitudinal instability of the forearm. When early diagnosed, patients report better outcomes with higher functional recovery. Aim of this treatment is to focus on the different lesion patterns causing forearm instability, reviewing literature and the cases treated by the Authors and to propose a new terminology for their identification.
Methods:
Six patients affected by acute Essex-Lopresti injury have been enrolled for this presentation. ELI was caused in two patients by bike fall, two cases by road traffic accident and two patient by fall while military training. A literature search was performed using Ovid Medline, Ovid Embase, Scopus and Cochrane Library and the Medical Subject Headings vocabulary. The search was limited to English language literature. 42 articles were evaluated, and finally four papers were considered for the review.
Results:
All patients were operated in acute setting with radial head replacement and different combinations of interosseous membrane reconstruction and distal radio-ulnar joint stabilization. Patients were followed for a mean of 15 months: a consistent improvement of clinical results were observed, reporting a mean MEPS of 92 and a mean MMWS of 90.8. One case complained persistent wrist pain associated to DRUJ discrepancy of 3 mm and underwent ulnar shortening osteotomy nine months after surgery, with good results.
Discussion:
The clinical studies present in literature reported similar results, highlighting as patients properly diagnosed and treated in acute setting report better results than patients operated after four weeks. In this study, the definitions of “Acute Engaged” and “Undetected at Imminent Evolution” Essex-Lopresti injury are proposed, in order to underline the necessity to carefully investigate the anatomical and radiological features in order to perform an early and proper surgical treatment.

Conclusions:
Following the observations, the definitions of “Acute Engaged” and “Undetected at Imminent Evolution” injuries are proposed to distinguish between evident cases and more insidious settings, with necessity of carefully investigate the anatomical and radiological features in order to address patients to an early and proper surgical treatment.

Free paper

Saturday, May 11, Sixth Floor Conference Room, E-DA Cancer Hospital

	Time：08:30~09:30 Moderator: Jung-Pan Wang / Cheng-Hung Lin	
08:30-08:36	Extensor carpi radialis longus tendon for extensor retinaculum reconstruction in dorsal plating of the wrist.	Hui-Kuang Huang
08:36-08:42	Long-term radiographic and clinical outcomes of ulnar shortening osteotomy in patients with ulnar impaction syndrome and reverse oblique sigmoid notch.	Hui-Kuang Huang
08:42-08:48	Antegrade intramedullary pinning for malunion of the proximal phalangeal fractures.	Cheng-Yu Yin
08:48-08:54	Percutaneous capsulotomy for mucous cysts of the fingers: A review of 44 cases with a minimum of 1-year follow-up.	Wei Hsiung
08:54-09:00	Arthroscopic transosseous foveal footprint repair of triangular fibrocartilage complex.	Chen-Yuan Yang
09:00-09:06	The correlation of carpal tunnel pressure with clinical outcomes following ultrasonographically-guided percutaneous carpal tunnel release.	Tung-Tai Wu
09:06-09:12	Radial distraction to stabilize distal radioulnar joint in distal radius fixation: Longer than 2 years follow-up.	Cheng-Yu Yin
09:12-09:18	Typical cleft hand.	Cen-Hung Lin
09:18-09:24	Comparison of lateral locking plates and intramedullary K-wires for Boxer’s fractures.	Kuan-Jung Chen
09:24-09:30	Discussion	
09:30-10:00	Coffee Break	
10:00-10:10	Opening Ceremony	**The honorary chairman:** Yuan-Kun Tu **President:** I-Ming Jou

於手腕背側鋼板固定手術後以橈側伸腕長肌腱移植重建伸肌支持帶
Extensor carpi radialis longus tendon for extensor retinaculum reconstruction in dorsal plating of the wrist

黃惠鑛, 吳金獻, 杜元坤

Hui-Kuang Huang, Chin-Hsien Wu, Yuan-Kun Tu

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【Introduction】

The dorsal approach to the wrist with plating procedures were not uncommon, especially in some fixation of the distal radius fractures and wrist arthrodesis. Use of the retinaculum flap to cover the plate is ideal, with one half remaining to cover the extensor tendons. But in some circumstances, the retinaculum may not be of an appropriate size for both uses. We presented a method using a half-slip of a distal-based extensor carpi radialis longus (ECRL) tendon for extensor retinaculum reconstruction, if the extensor retinaculum is insufficient in size to cover the extensor tendons.

【Materials and Methods】

A distally-based slip of half ECRL tendon is created by splitting the tendon longitudinally and cut at the point 8cm proximal to its insertion. This slip is then pulled proximally and ulnarly, and is anchored onto the radial margin of the extensor retinaculum of the fifth compartment to cover the exposed extensor tendons, with the extensor pollicis longus (EPL) not included. Then the free end of the ECRB half-slip is turned radially and proximally and secured back onto the ECRL itself.

【Results】

In comparison to the patients with half of the extensor retinaculum for covering the plate and another half for covering the extensor tendons, there were no significant difference in the wrist range of motion and functional outcomes. There were no bow-stringing of the extensor tendons and no finger extensors dysfunction.

【Discussion】

The ECRL tendon could be used for extensor retinaculum reconstruction, if the extensor retinaculum is insufficient in size to cover the extensor tendons. There were no complications and dysfunction of the extensor tendons.

使用尺骨縮短手術治療尺骨撞擊症候群併倒斜型態乙狀切迹病人的長期影像學和臨床的結果探討

Long-term Radiographic and Clinic Outcomes of Ulnar Shortening Osteotomy in Patients with Ulnar Impaction Syndrome and Reverse Oblique Sigmoid Notch

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【Introduction】

It is considered to be contraindicated of performing the ulnar shortening osteotomy on the patients with the plain radiographic appearance showing an unfavorable reverse obliquity sigmoid notch. But some held opposed opinions suggesting that the remodeling would happen instead of the osteoarthritic change. In this study, we investigated the long-term radiological and functional outcomes of ulnar shortening osteotomy in the patients with reverse obliquity sigmoid notch.

【Materials and Methods】

Between 2002 and 2013, we investigated our patients who had reverse oblique inclination of the sigmoid notch (Tolat type 3) and underwent ulnar shortening osteotomy in treating the ulnar impaction syndrome. We included patients who could have well-documented clinical records and radiographic evaluations, and the follow-up period could reach a minimum of 3 years. We evaluated the radiological changes in the distal radioulnar joints and the factors correlating with the functional results.

【Results】

There were 17 patients (18 wrists) with an average age of 53 years (range, 25-77 years) enrolled. The mean follow-up period was 89.8 months (range, 36-179 months). The mean preoperative ulnar plus was 4.4mm (range, 3-7mm) and the mean shortening length was 3.8mm (range, 3-6mm). At the final evaluations, we found there were remodeling changes in the sigmoid inclination, which was from an average of 16.7 degree to a less reverse obliquity of 2.6 degree. The remodeling angle did not correlate with the patients' age, gender, and dominant side. Also it did not affect the functional results and the wrist range of motion.

【Discussion & Conclusions】

The ulnar shortening osteotomy might be reasonable in the distal radioulnar joints with the appearance of reverse oblique inclination of sigmoid notch. -There would be a "remodeling" change in the sigmoid inclination after the ulnar shortening osteotomy in the reverse obliquity sigmoid notch. In addition, the functional results may not correlate with the amount of remodeling.

Antegrade Intramedullary Pinning for Malunion of the Proximal Phalangeal Fractures

殷震宇[1] 黃惠鑛[2] 王榮礪[1] 張明超[1]

台北榮民總醫院骨科部[1] 嘉義基督教醫院骨科部[2]

【Introduction】

Proximal phalanx fractures are common and fixation after reduction of the unstable fracture is suggested. However, mal-reduction or failed fixation will cause malunion, which could impair the normal digits function or cause the cosmetic problems. Surgical treatment of revision should be considered if the malunion exists, yet complications of surgical treatment such as joint stiffness or tendon adhesion are still issues to overcome, and the rigidity of the fixation of revision surgery is the keystone. Here we reported our experience of anterograde intramedullary pinning for treatment of the unsolidified malunion of proximal phalanx.

【Materials and Methods】

Between January 20012 and October 2015, 11 patients with 12 digits suffered from malunion of proximal phalangeal fracture after initial surgical fixation received revised surgery and were reviewed. For the surgical method, we introduced the stepwise procedure, including tenolysis for fully passive flexion if indicated, osteotomy via multiple drilling of K-wire for maneuverability of fracture reduction, and anterograde intramedullary pinning without MCPJ fixation for active range of motion. Various clinical data was collected, including demographic data, duration between initial surgery and revised surgery, time to bone union, length of follow-up, post-operative range of motion status and VAS scale of pain at the final follow-up.

【Results】

Average age was 39. There were 5 women and 6 men. For finger involvement, there were 5 right middle fingers, 2 right ring finger, 2 right small finger, 2 left middle fingers, and 1 left ring finger. Among these fingers, 8 of them suffered from stiffness, 9 of them suffered from angulation, and 4 of them suffered from malrotation. Average duration between presentation of fracture and revision surgery were 152 days. All patients were followed-up for more than 30 months. Average time to bone union were 4 weeks. All the patient except 2 achieved excellent functional range of motion of the involved finger. All the patients returned to their previous work at an average of 11 weeks after revision surgery.

【Discussion】

The stepwise procedure with antegrade intramedullary pinning for malunion of the proximal phalangeal fractures is promising from the our preliminary clinical results. For the surgeons who are familiar to the percutaneous technique or the low-profile plate is not available, this method could be an alternative choice of revision surgery.

Percutaneous Capsulotomy for Mucous Cysts of the Fingers: A Review of 44 Cases with a Minimum of 1-Year Follow-up

手指黏液囊腫之微創治療-經皮關節囊破壞術

熊偉、黃惠鑛、黃意超、張明超、王榮碭
台北榮民總醫院、陽明大學醫學院、嘉義基督教醫院

【Introduction】

Since Digital mucous cysts described by Hyde in 1883, there are so many nonsurgical and surgical treatment have been reported. Till now, surgical treatment guarantee lower recurrent rate but with the possible adverse effect of infection, prolonged wound healing, and joint motion limitation after surgery. By standing on the shoulders of giant, we brought a whole new technique “needle assisted percutaneous capsulotomy”.

【Materials and Methods】

Between 2016 and 2018, we had treated 44 DMCs (42 patients) with the method of needle-assisted percutaneous capsulotomy. The average follow-up period was 19.1 months (range, 13-27 months). Wound healing condition and potential problems, including wound infection, joint stiffness, nail-appearance change, and recurrences, were evaluated. The satisfaction assessment was conducted by using a visual analogue scale (satisfaction VAS) (0, no satisfaction; 10, extreme satisfaction). Moreover, we reviewed another 48 DMCs (48 patients) treated between 2013 and 2015 (mean follow-up 51.7 months), with the cyst excision and primary skin closure or local flap procedure as a comparison group.

【Results】

In the percutaneous-capsulotomy group, the mean age was 63 years (range, 24-87 years). The mean duration of DMC appearance before treatment was 11.2 months (range, 1-36 months). Sixteen patients (16 digits) had undergone a previous surgery for the DMC treatment. Recurrence was noted to occur in one patient, but there were no skin problems or other complications. The mean distal interphalangeal range of motion improved from 47.1 degree to 55.9 degree ($p < 0.05$). Seventeen of 21 cases with nail deformity could achieve an improved nail appearance after regrowth of nail. The mean final satisfaction VAS score was 9.2. In the open-excision group, the recurrence was noted in 3 patients (6%). Patients’ satisfaction and distal interphalangeal motion was significantly inferior to those of percutaneous-capsulotomy group.

【Discussion & Conclusions】

Surgical treatment is considered a definite treatment for DMCs and the related problems. Although good outcomes could be achieved, there are still some surgical complications- joint stiffness, swelling or tenderness, newly-onset nail deformity and infection. Percutaneous capsulotomy had low recurrent rate, highly satisfaction VAS score(9.2), less morbidity and fewer complications possibly occur following the surgical treatment. The "needle-assisted percutaneous capsulotomy" could be a reliable choice in treating DMC.

Arthroscopic Transosseous Foveal Footprint Repair of Triangular Fibrocartilage Complex

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【Introduction】

Foveal disruption of the triangular fibrocartilage complex (TFCC) is contributed to the instability of distal radioulnar joint (DRUJ). We have developed a unique arthroscopic transosseous foveal footprint repair technique, and hypothesized that this technique can provide reliable DRUJ stability and satisfactory clinical results.

【Materials and Methods】

Twelve TFCC foveal injuries were repaired arthroscopically with four suture strands passing through single 1.6mm ulnar bone tunnel to radial border of ulnar fovea. The disrupted TFCC was reattached back to its foveal footprint using these four suture strands in divergent directions. Mean age at index surgery was 32 years. All of them were followed at a mean of 29 months (range, 17- 47 mo). All cases data were retrospectively reviewed include time interval between trauma and surgery, physical examination, image study and surgical finding. Both preoperative and postoperative pain, grip strength, ROM (wrist flexion/extension, and pronation/supination), DRUJ instability and Mayo Modified Wrist Score were evaluated.

【Results】

During operation, all patients were confirmed TFCC foveal tear with hook test, loss of trampoline sign and DRUJ instability. No complication such as skin irritation or ulnar nerve dorsal branch injury was found. Eleven wrists (91.6%) achieved excellent result, and the other one with good result. All patient achieved significant improvement in pain relief, functional status, ROM and grip power. About functional outcome score, there was no difference in injury type, dominant hand, age > 30 y/o, delayed time of surgery > 6 months, and muscle power between injured and non-injured wrist after 18 months. The male group had superior outcome than female group.

【Discussion & Conclusions】

Arthroscopic transosseous foveal footprint repair provide good contact between disrupted TFCC foveal stump and its footprint for better healing. The innovative method could restore DRUJ stability and achieve satisfactory clinical results

Radial distraction to stabilize distal radioulnar joint in distal radius fixation: Longer than 2 years follow-up

殷震宇[1]，黃惠鑛[2]，王榮碡[1]

台北榮民總醫院骨科部[1] 嘉義基督教醫院骨科部[2]

Persistent DRUJ instability following internal fixation of distal radius fractures can be managed with soft tissue or bony stabilization and prolonged immobilization. These strategies limit early motion. To address this limitation, we report our technique of indirect ulna shortening by radial distraction followed by early mobilization and provide at least two years clinical results. Our technique was performed intraoperatively in cases of persistent DRUJ instability during standard volar plating of distal radius fractures. Radial lengthening was achieved by distraction through the fracture site using the oblong hole of the plate until DRUJ stability was obtained. Postoperatively, there was no immobilization of forearm rotation and a standard early mobilization rehabilitation program was initiated at two weeks post operatively. We report minimum 24 month clinical and radiographic outcomes using this technique in 23 patients. In all cases, final evaluation demonstrated acceptable wrist range of motion, a stable DRUJ, and there were no cases of distal radius nonunion. Our method of indirect ulnar shortening by distraction through distal radius fracture site provides a simple and novel strategy for management of persistent DRUJ instability during volar plating.

Typical Cleft Hand

典型手裂症

林岑紘 林寶源 葉明中 江原正

高雄長庚醫院整形外科

【Introduction】

Cleft hand, also called split hand malformation or central ray deficiency, is a rare, complex, highly variable anomalies. Various classifications and surgical techniques have been proposed up to now. The purpose of this study is to review the clinical presentations and surgical experiences of 13 patients in southern Taiwan.

【Materials and Methods】

From 1987 to Feb.2019, a total of 13 patients were diagnosed as “cleft hand and/or cleft foot” in Kaohsiung Chang Gung Memorial Hospital, Taiwan. Among these, 9 were male and 4 were female patients. Charts and images were reviewed. Patients were either evaluated in clinic or contacted with telephone.

【Results】

Eight patients underwent either one or staged reconstructive procedures. Follow-up period ranged from 4 months to 17 years. Satisfactory functional and cosmetic improvement was achieved in most patients. Only few minor morbidities were noted. Controversial classification existed in some patients

【Discussion & Conclusions】

A complex and rare disease which need multidisciplinary management.

Good function and cosmesis are achievable in simple cases, but may improve little in complicated cases.

High adaptability of children is the rule.

A better classification according to both morphology and the development may be needed.

Comparison of Lateral Locking Plates and Intramedullary K-wires for Boxer's fractures

陳冠融 黃意超 黃惠鑛*王榮礽 張明超

台北榮民總醫院、*嘉義基督教醫院

【Introduction】

Severe angulation, shortening, or rotational deformity are surgical indications for fifth metacarpal neck fracture. Among available techniques, dorsal locking plates with immediate mobilization paradoxically provided poorer mobility than intramedullary K-wire. With lateral placement of locking plates, however, may challenge the preference for K-wires.

【Materials and Methods】

Fifty-six patients with displaced fifth metacarpal neck fractures with an apex dorsal angulation greater than 30◦or shortening >3cm were enrolled in our retrospective study. Subjects were treated by lateral locking plates (Group 1) or by percutaneous retrograde intramedullary pinning (Group 2). Clinical evaluations including Quick DASH score, complications, and active ROM of the fifth metacarpophalangeal joint were retrieved from charts. Radiographic evaluations of apex dorsal angulation and axial shortening were performed preoperatively, postoperatively, and at final follow up.

【Results】

The patients in Group 1 presented significantly better radiographic outcome of final shortening (0.24mm [range, -0.09–0.62] versus 0.39mm [range,0.62–1.1], p=0.04), and a trend toward better control of secondary angulation (14.89°[range, 4.81–29.67] versus 17.71° [range, 10.01–29.41] , p=0.06). Differences in Group 1 and Group 2 were not found in final ROM: 94.4 [range, 30-110] versus 96.3 [range, 60 –110] or quick QASH score. Five complications were observed in Group 1, including 1 poor wound healing with draining hole, 1 superficial infection, and stiffness in 3 cases which led to removal of implant in 2 cases. One superficial infection was observed in Group2.

【Discussion & Conclusions】

Our study findings suggest radiological outcome in the lateral locking plate group. However, the final clinical outcomes were similar. For patients who require an early return of hand function, such as athletes, lateral locking plates can be recommended. Otherwise, treatment could be decided according to the surgeon's preference and patient status, and based on consideration of the need for an accessory procedure for pin removal after antegrade intramedullary pinning.

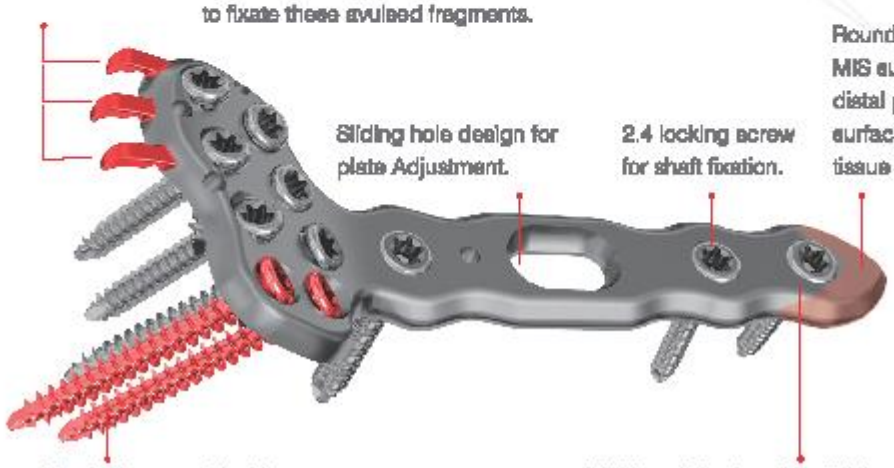
Sponsorship and Endorsement

TDR

Trident Distal Radial Locking Plate

Trident have round edge can easily to bend or cut.

Small fragments that are distal to the watershed line represent a clinical challenge. TDR provide Trident which is placed distally of the watershed line to fixate these avulsed fragments.



Sliding hole design for plate Adjustment.

2.4 locking screw for shaft fixation.

Rounded tap edges for MIS surgery & Reduced distal profile with a smooth surface for maximumsoft tissue protection.

2 Styloid targeted locking screw.

Highly polished surface finish avoid soft tissue irritation.

Cross-link locking screw network.

θ= 5° Converelon & diverelon angular locking screw for shaft fixation.

Aplus


Aclasta 骨力強
zoledronic acid 5 mg 注射液
solution for infusion
即刻骨力強
全年骨保障!
一年一針
停經後女性骨鬆的預防與治療
男性骨鬆的治療
治療及預防因類固醇引起之骨鬆
使用前請詳閱說明書警語與注意事項
Alvogen
Lotus

CELEBREX 希樂葆膠囊 200 毫克

衛署藥製字第 023177 號

健保給付年齡已放寬[1]

NEW!

年齡大於等於五十歲之骨關節炎患者

≥ 50 歲*

之

OA† 患者

即可健保給付 CELEBREX

*Celecoxib 可用於年齡大於等於五十歲之骨關節炎病患 †骨關節炎 (Osteoarthritis, OA)

CELEBREX 骨關節炎用法用量[2]：

用法用量/建議劑量，應依個別病人的治療目標使用最低有效劑量

Reference: 1.CELEBREX 藥品給付規範 2.CELEBREX 中文仿單 USPI 201806-3

北衛藥廣字第 10801014 號

【處方說明】CELEBREX® 簡易處方資訊 USPI 201806-3

【成分】CELEBREX® 口服膠囊劑的規格有 Celecoxib 200 毫克【適應症】緩解骨關節炎之症狀與徵兆。緩解成人類風濕性關節炎之症狀與徵兆。緩解成人急性疼痛及治療原發性經痛。緩解僵直性脊椎炎之症狀與徵兆。【用法用量】骨關節炎解除骨關節炎徵象及症狀的建議劑量為每天 200 mg，單次服用；或以每天二次，每次 100 mg 的方式給藥亦可。類風濕性關節炎：解除類風濕性關節炎徵象及症狀的建議劑量為每天二次、每次 100 至 200 mg。僵直性脊椎炎 (AS)：為治療僵直性脊椎炎的徵象及症狀，CELEBREX® 的建議劑量為每天 200 mg，單次 (每天一次) 或分次 (每天二次) 給藥。六週後若未見效，可嘗試每天 400 mg 之劑量，6 週後若仍未見效，就不會有療效反應，應考慮改用別的治療。緩解急性疼痛及治療原發性經痛：第一天之建議初始劑量為 400 mg，隨後時可再服用 200 mg，接下來的建議劑量為需要時每天二次，每次 200 mg。特殊族群：中度肝功能損傷病人 (Child-Pugh 分級 B 級) CELEBREX® 的每日建議劑量必須降低 50%。對於嚴重肝功能損傷病人，不建議使用 CELEBREX®。CELEBREX® 不建議用於終末期重腎功能損傷的病人。【禁忌症】已知對 Celecoxib、aspirin 或其它 NSAIDs 、藥品中任何成份過敏的病人。對磺醯胺 (sulfonamides) 基生過敏反應的病人。曾於服用 aspirin 或其它 NSAIDs 之後出現氣喘、蕁麻疹、或其他過敏反應的病人。此類病人曾有對 NSAIDs 基生嚴重、有時危及生命性過敏反應的報告。施行冠狀動脈繞道手術 (CABG) 之後 14 天內禁用本藥。【警語和注意事項】心血管血栓栓塞事件：NSAIDs 藥品會增加發生嚴重心血管栓塞事件之風險，包括心肌梗塞和中風，且可能為致命的，此風險可能發生在使用該藥品的初期，且使用藥品的時間越長，風險越大。高血壓：NSAIDs (包括 CELEBREX®) 可能導致新的高血壓發病或使原有的高血壓惡化，進而促使心血管事件的發生率增加，使用血管收縮素轉化酶(ACE)抑制劑、thiazides 或環利尿劑的病人。服用 NSAIDs 期間，對這些療法的反應可能會減弱。胃腸道 (GI) 出血、潰瘍及穿孔：NSAIDs 導致增加嚴重胃腸道 (GI) 不良事件危險包括可引發甚死性的腸道的出血、潰瘍及穿孔，這些事件可發生在治療期任何時間而且沒有警示症狀，老年人及先前有消化性潰瘍病史或胃腸道 (GI) 出血的病人有較高的危險會出現嚴重事件。【不良反應】頭痛、消化不良、上呼吸道感染、腸胃炎、鼻炎、腸胃等。

Pfizer Limited
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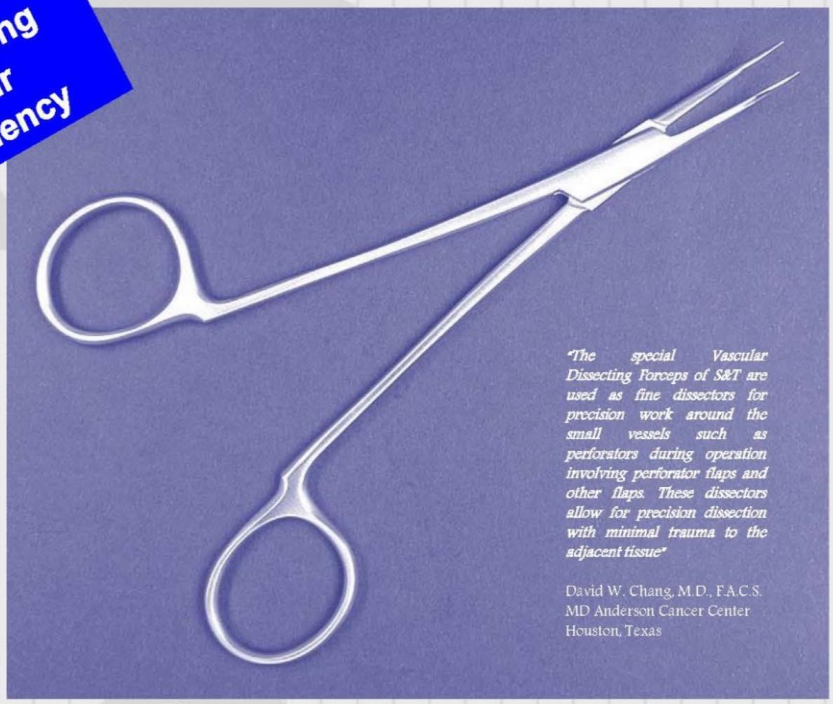
CELEBREX 希樂葆

PP-CEL-TWN-0178-201901

Vascular Dissecting Forceps

Improving your efficiency



"The special Vascular Dissecting Forceps of S&T are used as fine dissectors for precision work around the small vessels such as perforators during operation involving perforator flaps and other flaps. These dissectors allow for precision dissection with minimal trauma to the adjacent tissue"

David W. Chang, M.D., F.A.C.S.
MD Anderson Cancer Center
Houston, Texas

- **Fine dissectors, 0.5mm tips**
- **Curved or angulated shape**
- **Precision dissection around small vessels**
- **Smooth and gentle manipulation of the dissected tissue**
- **Minimal trauma to adjacent tissue**

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00926	VDF-12	12.5 cm length
00927	VDF-14	14.5 cm length
00928	VDF-16	16.0 cm length

Available in 3 different lengths ANGULATED		
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00934	VDFA-13	13.5 cm length
00935	VDFA-15	15.5 cm length

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