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ezine ifssh

CONNECTING OUR GLOBAL HAND SURGERY FAMILY

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Executive news

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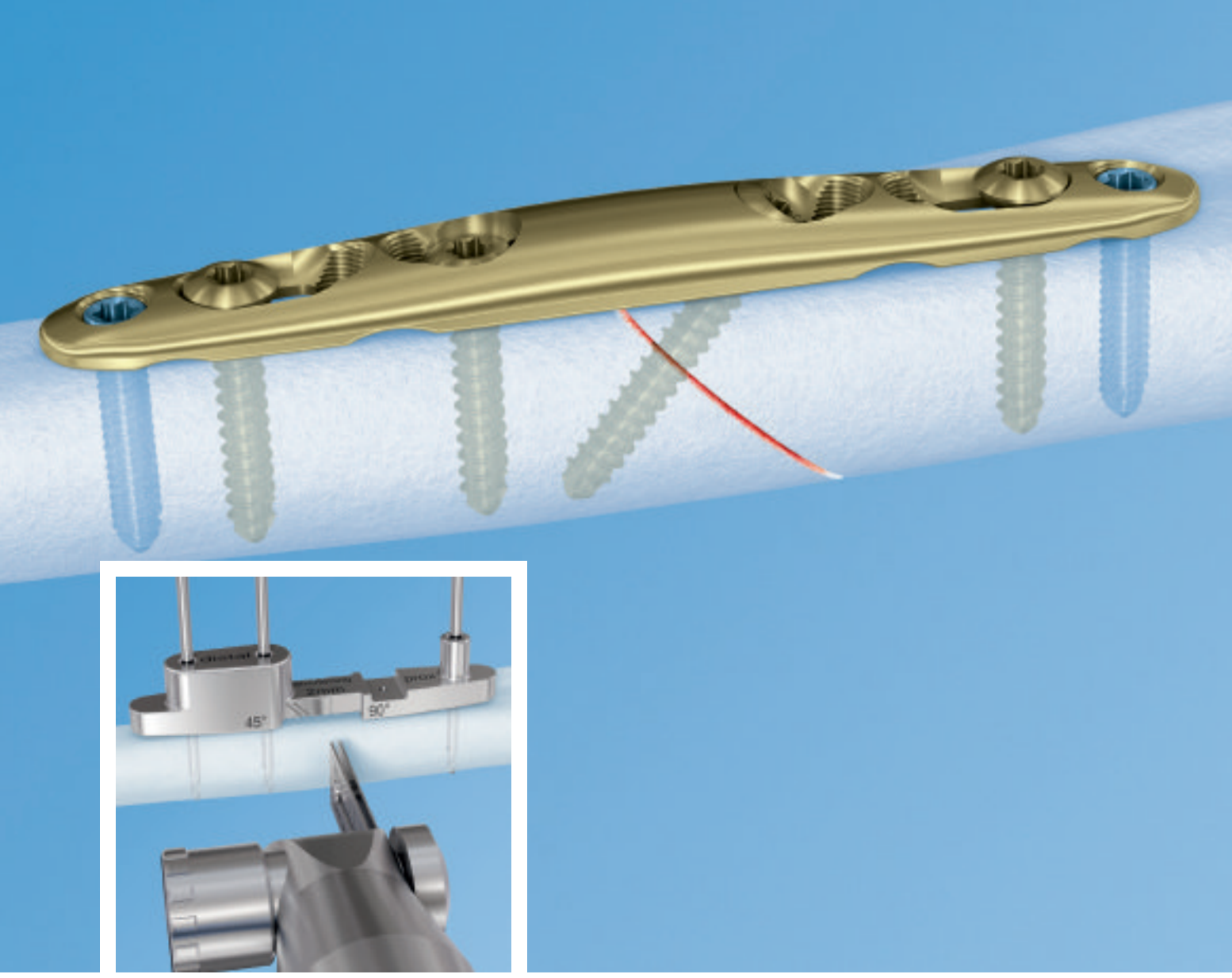
IFSSH Scientific Committee Report on Pain Syndromes

DOES CRPS REALLY EXIST?

THE REHABILITATION OF FLEXOR TENDON INJURIES IN ZONE 2



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Contents

The IFSSH in its first 50 years

Guest editorial by
***Professor Michael Tonkin**,*
President IFSSH, Deputy Editor: IFSSH ezine

The IFSSH was established in 1966 with a membership of eight societies. Its charter listed eleven chief purposes, which can be broadly summarised as a determination to spread knowledge of and to develop hand surgery throughout the world. As the Federation approaches the completion of the first 50 years it is pertinent to ask whether we are achieving those aims.

The Federation conducts triennial congresses, often in association with our therapy colleagues. The strength of these congresses is that no other meeting attracts such a diverse registration of disparate peoples. They provide a forum for those from developed and underdeveloped countries and, most importantly, allow a concentrated time of 4-5 days in which we meet old friends, create new friendships and introduce younger generations and new hand surgery societies to our family.

An examination of the Executive Committee members over the years is illustrative, with Presidents and committee members from Asia, the Americas (South and North), Europe, Africa and Oceania. One of the tasks of the IFSSH Executive Committee, through its President and more recently with the assistance of the President Elect, is to establish scientific committees which report on specific subjects. In recent years the committee reports have become more inclusive of our member societies and the methods of appointment of committees, timing of receipt of reports, and dispersal of these reports to the wider community have become more sophisticated. Publication in the IFSSH ezine reaches a wide readership, and a report booklet is also produced at each triennial congress.

Our financial status has improved to a level at which the Federation is now in a position to support worthy educational projects. Previously these have been on an ad hoc basis but, with the establishment of a Committee for Educational Sponsorship and precise guidelines for application, we have been able to support educational meetings in Eastern Europe, projects conducted by our hand therapy colleagues, educational opportunities for those from poorer countries, and registration costs for many, not only to IFSSH congresses but to other worthy meetings.

What of the future?

There are a number of immediate initiatives which are being pursued by

IFSSH ezine editorial team:
Editor: Professor Ulrich Mennen (Immediate Past President of the IFSSH)
Deputy Editor: Professor Michael Tonkin (President of the IFSSH)
Publication coordinator: Marita Kritzinger (Apex ezines)
Graphic Designer: Andy Garside

the IFSSH Executive Committee as the representative of the Delegates' Council. Perhaps one of the most substantial of these initiatives is to encourage our Chinese colleagues to join the Federation. Recently Russia has done so. Of course, language and other differences which separate us can be somewhat daunting. However, as the world becomes a smaller place, to be inclusive becomes easier and perhaps the need more important.

The triennial congress retains its main purpose. It is a congress which complements the annual scientific meetings of its constituent societies. Recent congresses in Australia, South Korea and India, and the forthcoming 2016 Congress in Argentina allow these countries to demonstrate an increasing sophistication of hand surgery expertise and organisation of hand surgery services. In 2019 we return to Europe, which conducts its own European Federation Congress each year. This FESSH Congress and the American Society meeting are great forums for learning, as is the APFSSH Congress which unites the Asia Pacific hand surgery societies.

One of the concerns of the IFSSH Executive Committee is how to best use our funds. These are not vast but, well used, can make significant differences to the hand surgery education of many people. Recently the Executive Committee has supported a proposal to establish a Visiting Professorship to honour Harold Kleinert from Louisville, USA. Many hand surgeons have made significant contributions to international hand surgery. Perhaps none have achieved more extensive influence than Harold Kleinert, through the very large number of overseas fellows who have been taught in Louisville and, most importantly, the thousands that these fellows have reached upon return to their own countries. The details of the IFSSH Harold Kleinert Visiting Professorship, its scope and application processes, will be discussed at the next Delegates' Council Meeting in Paris in June of this year. The Federation is also in a position to support other applications for financial assistance for educational purposes and all societies are invited to review the criteria for application on the IFSSH website and consider formulating a proposal for submission to the Committee for Educational Sponsorship.

The IFSSH Executive Committee is to consider another vital aspect of worldwide hand surgery training. Many of us have benefited from travel to another country to learn how it is done elsewhere, to be taught and, importantly, to learn of different cultures. However, although the world is a smaller place, the barriers to training in foreign countries would

appear to be becoming more prohibitive as the governments of countries look to protect their own programmes and standards. Common European laws make it difficult for foreigners to easily take up fellowship positions in European countries. Restrictions in the United States are making it difficult for foreign medical graduates to join fellowship programmes. Of course, these restrictions are not limited to hand surgery. During this year, each society will be approached to provide information as to what training opportunities exist within their country for overseas hand surgeons. Hopefully we can establish an international register of hand surgery fellowships, with contact details and some indication of the requirements of the specific countries for foreign medical graduates to work in these countries, whether it be in a full training position or as an observer. It may be appropriate for applicants from any particular country to make that application through their home hand surgery society, which could act as a filter. The concept of an international hand surgery fellowship register is attractive. Although the practicality of its administration is debatable, it does seem feasible to, at the least, provide an access to information via the Federation website.

We have come a long way in our first 50 years which concludes with the Argentinian Congress in 2016. I believe we should look forward to the next 50 years with justifiable hope and enthusiasm for the continuing development of hand surgery throughout all corners of the world.

Professor Michael Tonkin,
President IFSSH, Deputy Editor: IFSSH ezine

Living Textbook of Hand Surgery

The philosophy of OER (Open Educational Resources) is that everybody is allowed to use the material in this Textbook for his/her own information and work. The only limitation is by an open license to mention and acknowledge the source, and to publish under the same open conditions.

For example, Marc Garcia-Elias, Secretary General of the IFSSH, has taken on the responsibility for the chapter "Bones, Joints and Ligaments". Under his guidance the current state of science and knowledge in this field, together with new and instructive drawings will be published in the Living Textbook of Hand Surgery.

We encourage other authors, who are interested to take part in their special field of knowledge and science. The chapters "Vasculature" and "Tumors" are still available to be written by a competent team of authors. Other subchapters are also in need of enthusiastic authors.

Do not hesitate to contact if you are interested to be part of this exciting international project. This unique endeavour is designed to be inclusive; not exclusive as seen with the authorships of most textbooks.

To test the functionality and responsive design of the first alpha-version of the textbook, we expect the first chapters to be available soon. If you want to register for testing the alpha-version, please send an email to contact@hand-ww.de.

Richarda Boettcher
Handchirurgie Weltweit e.V.
richarda.boettcher@hand-ww.de

Lee Watson Milford, M.D.

Lee Watson Milford of Memphis, TN died peacefully holding the hand of Betty, his beloved wife of 69 years, on November 22, 2013 at the age of 91 years. Dr Milford was born in Anderson, SC where his father was a general practitioner and his mother a nurse. From his early years, medicine was an early focus and he eventually became one of the world's leading hand surgeons. In 1995 in Helsinki, Finland, he was elected by the International Federation of Society for Surgery of the Hand (IFSSH) as a Pioneer of Hand Surgery because of his many major contributions to the field of hand surgery.

After completing an orthopedic residency program at Campbell Clinic in Memphis, Dr. Milford studied hand surgery under Joseph Boyes in Los Angeles. He joined the staff of Campbell Clinic in Memphis, TN in 1951 where he became the director of the hand service and eventually served as chief of staff of the Campbell Clinic.

Dr Milford trained many aspiring hand surgeons from the United States and around the globe. As a tribute to his mentoring, his trainees formed the "Milford Hand Club". He was passionate about the functional anatomy of the hand and a masterful surgeon. Dr Milford served as president of the American Society for Surgery of the Hand (ASSH) in 1974 when he led a large contingent of members of the ASSH to a joint meeting with the Japanese Hand Society in Japan. He was dedicated to the international education of hand surgeons and the development of global relationships among hand surgeons. He was an honorary member of several international hand societies including the British, French, Japanese, Brazilian, Caribbean, Argentine, and Spanish.

Lee was a modest, compassionate, and friendly individual who always made an effort to foster friendship with young hand surgeons and encourage them and promote them in their efforts to achieve their goals.

After his retirement from clinical practice, he continued to keep in contact with hand surgery and the orthopedic world. He had many hobbies including the crafting of grandfather clocks, baking bread, calligraphy, planting flowers, and bird watching which he shared with his extended family.

Dr Milford is survived by his wife, two children, four grandchildren, and two great grandchildren. He was truly an icon in the specialty of hand surgery.

James R Urbaniak

Share Section

The Exco of the IFSSH receives occasional requests by individuals or Hand Surgery Units for donations or financial support to purchase instruments, books, and various equipment needed to practise their trade as fellow Hand Surgeons and Therapists.

Many of our members have surplus instruments and other such items which could be of use to those in less fortunate circumstances. The IFSSH ezine would like to dedicate a 'Share Section' in every issue to facilitate contact between those seeking support and those looking for recipients of their surplus.

If you have anything which another Surgeon or Therapist may use in her/his practice, please offer it by sending a short description of the item(s) to the Editor(ezine@ifssh.info), as well as a contact email address.

If you are in need of a specific item, you are also welcome to send a short email to the Editor with your request and a contact email address.

NB: The IFSSH ezine acts solely as contact agent, and does not take any responsibility for any exchanged goods. The actual exchange and arrangements are the full responsibility of the two parties involved.

Message from the Secretary-General: Marc Garcia-Elias

Dear colleagues,

A new year is around the corner with 365 empty pages waiting for us. Like a new car, every page of the 2014 new calendar is an invitation to hit the road (Jack, or whatever your name is!). The IFSSH car is ready - let's use every single gallon of oil we can get to explore new ways of serving our community of hand surgeons. Every page of the calendar left blank is a missed opportunity, is a mile that we refused to drive, is a hand surgeon that has not been reached. The IFSSH is ready to fill each incoming calendar page with meaningful contents.

The following are some examples of what we plan to do. Please, join us!

2014 Delegates' Council Meeting

The annual IFSSH Delegates' Council Meeting will be held in June 2014 in Paris, in conjunction with the FESSH meeting (June 18-21). Full details will be sent to the delegates and secretariats of each member society in the near future. We hope to see a representative from each member nation at the Council meeting to participate in the discussions and with the planning of future IFSSH endeavours.

2016 IFSSH Congress – Buenos Aires, Argentina

The Organising Committee of the 2016 IFSSH-IFSHT triennial congress in Buenos Aires wish to advise that the congress dates have been altered. The congress will now be held from October 24-28, 2016. The Opening Ceremony will take place on the evening of Monday 24th October and the scientific and social programmes will conclude on Friday 28th October.

Dr Eduardo Zancolli and his colleagues are preparing a congress of a very high standard and waiting to welcome the international hand surgery community to Buenos Aires.

Details of the meeting are available via www.ifssh-ifsht2016.com

Educational bursaries and grants

Delegates are asked to read the guidelines on the website (www.ifssh.info) and encourage applications from their societies.

Report from Educational Bursary recipient: IFSHT

On behalf of IFSHT and its 40 member countries, thank you for your generous donation to IFSHT this year. The donation of US$4,500.00 allowed IFSHT to support ten therapists: three from Argentina, two Indian therapists studying abroad and one therapist each from Canada, United Kingdom, the United States and the Netherlands, to attend the 9th IFSHT Triennial Congress in New Delhi, India.

The opportunity to exchange information and discuss innovations in the practice of hand surgery and hand therapy was appreciated by all who attended and will surely further the practice of hand therapy. Here are a few excerpts from the many letters we have received from sponsored participants:

- From the United States: I feel fortunate to have attended my first meeting with IFSHT as both a participant and presenter. There

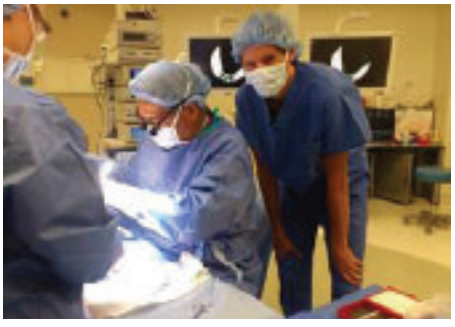
ifsht
International Federation of Societies for Hand Therapy

was an atmosphere of camaraderie, enthusiasm for hand therapy and a free flowing exchange of ideas. It's not often, an experienced therapist will say they learned something at a meeting, however I must say my head was filled with fresh ideas and my heart touched by new friendships!

- From India/ Canada: Being a Junior researcher in the field of upper extremity and hand rehabilitation, it was an ideal time and venue for me to learn from expert researchers, to hear international debates on the most effective treatments and service delivery models for mobility issues and to see clinical practice and culture variations from around the world.
- From the United Kingdom: The Congress itself was a fantastic experience. The organisers did a great job both for the Scientific and for the Social programmes. It was a privilege to hear so many excellent speakers and to have the opportunity to speak to them informally. I met hand therapists from around the globe, making new friends and contacts and renewing old friendships. As IFSHT is a non-profit making organisation, I know that there is no allocated funding for speakers or organisers. It was a huge bonus to have my registration fees covered by IFSHT, as I was unfortunately unable to get any funding for this trip from elsewhere

Without your generous donation much of this would not have been possible, we are deeply grateful for your support of the worldwide practice of hand therapy. We look forward to partnering with IFSSH for the next joint congress Triennial Congress in Buenos Aires, Argentina. We hope that we may once again count on your support then.

Sincerely,
***Sarah Ewald** IFSHT President ,*
***Lynn Freehan** IFSHT Immediate Past President*



TOP: ***University of Michigan, Ann Arbor – Dr Kevin C. Chung with fellows from Japan, Macedonia, US in the OR.*** *ABOVE LEFT:* ***San Francisco – observing Dr Edward Diao when doing endoscopic carpal tunnel release.*** *ABOVE RIGHT:* ***Stanford University, Palo Alto – Dr Amy Ladd with residents and fellows after a lecture in Robert A. Chase Hand & Upper Limb Center.*** *LEFT:* ***Walking to the Hospital for Special Surgery, New York.***

Report from Educational Bursary recipient: Dr Piotr Czarnecki

This travelling fellowship was a result of an invitation of the ASSH to national societies, including the Polish Society for Surgery of the Hand, and with the financial support of the IFSSH, I travelled to a number of hand surgery centres in the USA from September 16th to October 18th, 2013.

University of Michigan, Ann Arbor, host – Kevin C. Chung, September 16th – 20th

That was my first stop on my USA Hand Surgery Tour. The visit was very well planned and I received a schedule for before arriving in Ann Arbor. I had the opportunity to observe Dr Chung in the OR, both performing reconstructive and microsurgery procedures such as free gracilis transfers and usual every day procedures. I attended clinics and could consult preoperative patients and evaluate great postoperative results. Dr Chung showed also his great scientific possibilities which are really impressive and are proof of evidence based medicine, his practice is truly influenced by results evaluation. I also met Drs Ochi and Kato from Japan and we were asked to present our experiences in the form of a mini hand symposium. The week was concluded by dinner together with Dr Chung and his fellows.

San Francisco, host – Edward Diao, September 23th – 27th

With Dr Diao I experienced the way that a private hand surgeon works by being his shadow for most activities during busy days. I joined him in clinics and the OR in a few different hospitals/ units which was really valuable. It was extremely beneficial to discuss together some issues connected with CMC joint arthritis including trapeziectomy with suspensionplasty in contrast to joint replacement. Dr Diao is also an expert in endoscopic carpal tunnel release which gave me different perspective on this issue. Sharing both his surgical and also clinical experience was really fruitful and supported the thought that choice of the treatment should not only be based on fancy techniques. I really appreciate the personal input of Dr Diao to my stay and the possibility to discuss many issues during the dinner at his home.

ASSH Annual Meeting, October 2nd – 5th

This kind of meeting is always a big event and I had my time full of sessions, courses and lectures. The scientific quality was exceptional and courses provided really recent information on many important issues such as nerve repair and congenital deformities.

Stanford University, Palo Alto, host - Amy Ladd, October 7th – 11th

Continuing my stay in California, I couldn't choose better. The team at Stanford is really a group of exceptional people, including James Chang, Jeffrey Yao and headed by charismatic Amy Ladd. I could observe each of them during top quality hand surgeries in a few facilities including Lucile Packard Children Hospital, Stanford Medicine in Redwood City and the Robert A. Chase Hand & Upper Limb Center. I saw great presentations of wrist arthroscopy, CMC joint surgery, distal radius fractures and much more. The clinics I attended with Dr Ladd were a great opportunity to see her devotion to paediatric hands and share some of our experiences. Department meetings improved my theoretical knowledge. Dr Ladd was also very kind to invite my family for a dinner at her home which was a true American experience.

Hospital for Special Surgery, New York, host – Edward Athanasian, October 14th – 18th

My last stop was in New York with great opportunities to observe Dr Weiland, Dr Wolfe, Dr Lee and Dr Hotchkiss at work. The operating room time was used to a maximum and I switched from surgeon to surgeon. I observed and learned many techniques in CMC joint surgery. I also saw beautiful demonstration of elbow release and double nerve transfer for shoulder reanimation in upper plexus palsy. The clinics with Dr Weiland gave me the perspective of an extremely experienced hand surgeon, which is a big influence on everyone's practice. One of the biggest benefits was listening to Dr Athanasian discussing upper extremity tumours, as he is world-wide expert in this matter.

As well as observing operative techniques and various methods of treatment, this fellowship provided the opportunity to experience the US health system organisation and medical education. These are important issues when discussing treatment options and results, and also showing possible ways of improvement of my own practice. The benefits are clinical and scientific, personal and systemic. These are not possible to experience in any way other than travelling and visiting top world hand surgery centres.

Piotr Czarnecki, MD, PhD

Hand Surgery Department, Poznan University of Medical Sciences, Poland

Member society updates

Japanese Society for Surgery of the Hand

1) President's Greetings

It is my great pleasure to introduce our society in the IFSSH ezine Member Society Updates section. JSSH is one of the oldest hand surgery societies in the world and one of the eight founding member societies of the IFSSH. Our society has contributed internationally to the development of hand surgery and intends to do yet more from now on. The photo includes the members of the present board of directors.

(Naoyuki Ochiai M.D. & Ph.D., the 6th president of JSSH)

2) Foundation and development of JSSH

In 1956, Dr Harry Miller from Pennsylvania visited Japan. He brought the film, "Tendon Repair", edited by Dr Mason, and a letter from Dr Bunnell which encouraged the launching of the Hand Society in Japan. In 1957, the Japanese Society for Surgery of the Hand (JSSH) was founded, and the secretariat was opened at Kyushu University. The 1st Annual Meeting was held on July 7, in Kobe City (president, Prof. Amako). The participants numbered only fifty, and discussed hand contracture and tendon repair. The proceedings were published under the title 'Basics of Hand Surgery'.

With the effort of many senior hand pioneers, the JSSH has now grown to 3,447 regular members, approximately 13% of whom are plastic surgeons. The annual meeting is regularly held every year. The 56th Annual Meeting was held in Kobe (Congress President Prof. Tanaka), in April 2013. The participants totalled approximately 1,600, and 622 papers including poster presentations were discussed.

As the Society grows, a stronger system is needed to manage it. Prof. Tamai was elected the first president of the JSSH in 1999. The JSSH organization has 1 president, 2 vice presidents, 9 directors, 2 auditors, and 233 councillors. Now the congress president, elected every year, is engaged in the management of the annual meeting. In 2007, the Qualified Hand Surgeon system was started, and 450 surgeons were registered as QHS-certified.

Organizing international meetings is also an important task for the JSSH. The 3rd International Federation of Societies for Surgery of the Hand (IFSSH) Congress in 1986 was the first big international meeting hosted by the JSSH (president, Prof. Tajima). This international activity of the JSSH has been followed up with the 2nd International Symposium on the Wrist in 1991 (president, Prof. Miura), the 5th International Symposium on Congenital Differences of the Upper Limb in 2000 (president, Prof. Ogino), and the 4th Asian Pacific Federation of Societies for Surgery of the Hand (APFSSH) in 2005 (president, Prof. Ikuta). Dr. Yamauchi was elected as the President of the IFSSH in 1998. Dr Tamai was also elected as the President of the APFSSH in 2000. Then Dr Beppu was also elected as the President of the APFSSH in 2012. Many senior Japanese hand surgeons were elected as 'Pioneers of Hand Surgery' by the IFSSH. We congratulate the hand societies on their evolution and hope for an even closer relationship between the IFSSH and the JSSH.

3) 57th Annual Meeting of the JSSH

Date and time: 17-18 April in 2014
Location: Okinawa
President: Prof. Fuminori Kanaya, University of Ryukyu
URL: www.okinawa-congre.co.jp/57jssh2014

4) Secretariat for Japanese Society for Surgery of the Hand

Address: c/o Congress Corporation, Kohsai-kaikan Building, 5-1 Kojimachi, Chiyoda-ku, Tokyo 102-8481, Japan
TEL: +81-3-5216-5569
E-mail: office@jssh.or.jp
URL: www.jssh.or.jp

Italian Society for Surgery of the Hand

More than 50 years have passed since the first National Hand Meeting was organised in Florence in 1962 by a small group of surgeons under the guidance of Augusto Bonola. Giorgio Brunelli is the last surviving founding member of the Society (Fig 1). The Italian Society for Surgery of the Hand was rated as the third most important Hand Society in the world, following the American and the Scandinavian Societies, founded 12 years earlier. In 1964 the first edition of the Italian Journal of Hand Surgery was published. The Italian Society has been part of the IFSSH since its establishment in 1966.

At present the Italian Society for Surgery of the Hand includes 2 Honorary Presidents (P. Bedeschi and G. Brunelli), 12 Honorary Members and 872 Ordinary Members.

In Italy, aspiring hand surgeons must first complete a five-year full-time specialty training programme in Orthopaedic Surgery or Plastic Surgery. After registration in the Specialist Register, several fellowships, masters and courses are available under the support of the Society.

Two Hand and Microsurgery Fellowships are available in recognised Hand Surgery Centers. The Italian Society for Surgery of the Hand holds a training course in Arezzo (3 sessions in one academic year) for young aspiring hand surgeons. Three four-day sessions provide formal presentation, cadaver surgical demonstration and anatomical dissection practice to each participant, covering the different aspects of hand surgery.

Two master courses are also offered by the Society to specialists in orthopaedics and plastic surgery who want to improve their technical skills in the diagnosis and treatment of particular aspects of upper limb surgery. These courses are held in English under the supervision of a recognised International Faculty. The two courses organised in 2013 were: Dissection Course on Upper Limb Reconstruction and Arthroscopy and Arthroplasty of the Wrist (Fig 2).

The Society has already planned two forthcoming 2014 International Courses, one on elbow surgery and the other

ABOVE: ***One of the first council meetings of the Italian Society for Surgery of the Hand with some of the Society founding members (left to right: Ezio Morelli, Leonardo Gui, Augusto Bonola, Aldo De Negri, Giorgio Brunelli and Vittorio Salvi).***

BELOW: ***Surgical demonstration by S. Levin and A. Georgescu during the dissection course on upper limb reconstruction (Arezzo-Italy).***

covering different aspects of hand surgery (flexor tendon repair and reconstruction, extensor tendon injury including mallet finger-swan neck-boutonniere deformity, metacarpal and phalangeal fractures, ligament injuries, MCP and PIP joint replacement, etc.). Experts will give lectures and presentations followed by open surgical demonstrations on anatomical specimens. Each participant will bring clinical

cases to discuss with experts and will have the chance to practice on at least one anatomical specimen. Information available on the website of the Italian Society for Surgery of the Hand www.sicm.it

The Italian Society for Surgery of the Hand and the Italian Society for Microsurgery jointly organize a practical microsurgery course in Naples (3 five-day sessions in one academic year). This advanced course in microsurgery aims at filling the gap in the training of young surgeons aspiring to gain an expertise in microsurgery (Fig 3). Starting from 2014 the course is also open to foreign students. For more information and full admission criteria please visit the following websites: www.corsomicrochirurgia.it/ or http://www.sicm.it.

The Italian Society for Surgery of the Hand has continued to grow over the years and the improvements achieved have been recognised internationally: the Society is entrusted with the organisation of the 2015 FESSH meeting which will be held in Milan from 17th to 20th June 2015. For more information please visit the meeting website fessh2015.org or contact the Organising Secretary by email at fessh@promoleader.com

Best wishes

Roberto Adani MD

Email: roberto.adani@ospedaleuniverona.it

Dutch Society of Surgery of the Hand

Over the past five years the Dutch Society of Surgery of the Hand has grown rapidly to a multi-disciplinary society of 200 members including plastic surgeons, orthopaedic surgeons, general surgeons, rehabilitation physicians, anatomists and hand therapists. The Society celebrated its 40th anniversary in Amsterdam in 2012.

In 2013, the Dutch Society of Surgery of the Hand combined both of its meetings with colleagues:

- in April, joining with the Rheumatoid Arthritis Surgical Society (NERASS) with guest speaker Prof Ceruso from Italy; and - in November, joining with the Dutch Hand Therapy Group (NGHT) to discuss treatment of the PIP joint with guest speaker Dr Lluch from Spain. This was a great success.

This year the annual meeting will be combined with the Belgian Hand Surgery group (21st-22nd March, 2014) and will encompass general hand surgery.

Microsurgery course (Naples-Italy).

The Society is working on prevention campaigns at a national level for both minor and major hand injuries. For example, the 'More Than a Little Troublesome' ('Meer dan Onhandig') campaign was organised in 2012 in conjunction with the Dutch organisation for prevention and safety ('Veiligheid.nl').

The Society has also started working towards defining guidelines of a quality framework for professionals who practice hand surgery. Hand surgery is practiced in the Netherlands by different types of physicians: plastic surgeons, orthopaedic surgeons and general surgeons. Such guidelines will improve the care of hand surgery patients. These guidelines are focused on the physician: background training, hand surgery fellowship, examination (FESSH), and continuous medical education, among other things, are incorporated. The white book on hand surgery (FESSH) is used as a baseline. Definitive guidelines will hopefully be presented, along with accreditation, in 2014.

J Michiel Zuidam

IFSSH representative of the Dutch Society of Surgery of the Hand

Polish Society for Surgery of the Hand

The past year was fruitful for Polish Hand Surgery. Many meetings and symposia were organised to develop the knowledge of hand surgery among orthopaedic, plastic and general surgeons focused on this area. The main event was VIIth National Meeting which was held in Lodz, 10th-12th October. This meeting focused on wrist injuries and tendon reconstruction and was supported by international guests. Furthermore, at this meeting, Prof. Zbigniew Dutkiewicz was elected as the new President of the Polish Society.

As well as participating in the Hand Surgery Society, orthopaedic hand surgeons are also active in the Hand Surgery Section of the Polish Society of Orthopaedics and

Traumatology, which is chaired since 1.01.2014 by Dr Piotr Czarnecki. This section is responsible for the promotion of hand surgery among orthopaedic surgeons and for the organisation of hand surgery sessions and symposia to accompany the national orthopaedic meeting every second year.

Dr Piotr Czarnecki from Poznan was also selected by the Polish Society and approved by ASSH for a Travelling Fellowship. The Fellowship was important as it was the first time that the Polish Society was invited to participate. As a result, we have the benefits to improve our practices and have made many contacts within the American Society and with the doctors from the host cities (Ann Arbor, Palo Alto, San Francisco and New York). We are hoping to continue this cooperation in the future.

In 2013, in addition to the national meeting, further courses were organised including symposia and cadaver labs. These addressed problems of fracture fixation and wrist instability. New meetings and courses are being organised for 2014.

Prof Leszek Romanowski

Polish Society Delegate to the IFSSH

Romanian Society for Surgery of the Hand

In 1958, the Plastic Surgery and Burns Clinic in the University of Medicine and Pharmacy in Bucharest was formed under Professor Agrippa Ionescu's leadership. From then on, the hand became officially an interest area of this discipline and Hand Surgery became more coherent, performed only by plastic surgeons.

By 1989 Romania had 23 County Plastic Surgery Departments, in which hand surgery represented about 50% of the admitted cases. Nowadays, there are 6 University Centers (Bucharest, Cluj Napoca, Iasi, Timisoara, Constanta, Craiova) integrated in the continuous formation and development of young specialists in the field of hand surgery.

The Romanian Society for Surgery of the Hand (RSSH, in Romanian language SRCM: Societatea Romana de Chirurgia Mainii) was founded in September 1995, under the tutelage of the Romanian Society for Plastic Surgery and Romanian Society for Reconstructive Microsurgery.

Romania is a country of about 20 million inhabitants and the RSSH has 63 members. As there is no independent Hand Surgery discipline, all the members are plastic surgeons. The residency in Plastic Surgery and Reconstructive Microsurgery (the official name of the discipline) is completed over 6 years. The certification is in Plastic Surgery and Reconstructive Microsurgery, but there is no additional qualification for Hand Surgery. The experience of the plastic surgeons that perform hand surgery in Romania assists a multitude of other aetiologies - peripheral nerve reconstruction, oncology surgery, coverage of simple and complex tissue defects, congenital malformations, replantation / revascularization, free tissue transfers, etc.

The Society's activity materialized during its 17 years of existence through the organization of eight National Congresses, with large international participation.

The RSSH organized, in cooperation with AAHS (American Association for Hand Surgery), and under the chairmanship of Alexandru Georgescu and Jaiyoung Ryu, the Post-IFSSH Congress in Bucharest, Romania, June 18-21 2004. Many important scientific personalities were present and this meeting was highly regarded at an international level.

Furthermore, the RSSH organized five International Courses of Hand Surgery and Hand Therapy in Cluj Napoca. Romanian and international scientific papers pertaining to hand surgery were discussed, including challenging or interesting clinical cases. Lecturers also performed the discussed techniques on fresh cadavers, followed by the participants performing these techniques under guidance and supervision.

In June 2010 the RSSH organized the XVth FESSH Congress, in Bucharest, Romania under the chairmanship of Alexandru Georgescu. This congress had a very large participation of more than 800 participants from all over the world.

International acknowledgement was formalized by our society's affiliation to IFSSH (Vancouver 1998) and FESSH (Barcelona 2000). This endeavour could not have been accomplished without the help of international personalities as Robert McFarlane, Guy Foucher, Jean Philippe Nicolai, Peter Bruser, Steven Hovius, Alberto Lluch, Alex Beris, Panayotis Soucacos, James Urbaniak, Michael Tonkin, and many more supporters.

The current President of the Romanian Society is Alexandru Georgescu. He fulfils the role of Romanian Delegate to the IFSSH and FESSH, as well as to the Hand Trauma Committee.

Valentin Aburel, who promoted in our country some of the new methods, in his time, of hand surgery reconstruction, became an IFSSH Pioneer in Hand Surgery at the Vancouver Congress.

The promoters of modern hand surgery in Romania that have implemented microsurgical techniques on a large scale include Theodor Stamate, Alexandru Georgescu, Ioan Lascar, Stefan Luchian and Irina Visa.

As recognition of their efforts to promote the new surgical techniques in hand surgery in Romania and to reinforce the scientific contacts of the RSSH with specialists from all over the world, Teodor Stamate and Alexandru Georgescu became Honorary Members of the Italian Society for Microsurgery; also, Alexandru Georgescu became Honorary Member of the American Association of Hand Surgeons (AAHS) in 2002 and International Member of the American Society for Surgery of the Hand (ASSH) in 2013, and received two Awards from the AAHS: "Clinician/ Teacher of the Year 2003" (Kawai, Hawaii) and "Special Award of the American Association for Hand Surgery, 2005".

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Colombian Society for Surgery of the Hand

Dr. Hernando Laverde-Gutiérrez, IFSSH Colombian Delegate, President of the Colombian Association for Surgery of the Hand and Chief of the Hand Surgery Service at the Central Police Hospital in Bogotá, Colombia, Was awarded by the Ministry of National Defense - General Direction of the National Police with the Distinguished Service Medal.

Dr. Ricardo Mario Galan Suarez, General Secretary of the Colombian Association for Surgery of the Hand received the title of Professor Emeritus of aesthetic, plastic and reconstructive surgery in the Central Military Hospital in Bogota

Dr. Raúl Sastre Cifuentes past President of the Colombian Association for Surgery of the Hand is the new dean of the faculty of medicine at the National University of Colombia

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IFSSH Scientific Committee on Bone and Joint Injuries: Distal Radioulnar Joint Instability

Chair: Goo Hyun Baek (Korea), Committee: Hiroyuki Kato (Japan), Leszek Romanowski (Romania)

Report submitted November 2012, Distal Radioulnar Joint Instability

Introduction

The distal radioulnar joint (DRUJ) links the radius and ulna with the proximal radioulnar joint. The osseous structure of the DRUJ has minimal inherent stability. Thus, the DRUJ relies heavily on soft tissue structures, and instability of the joint is a common clinical problem. The current concept of the anatomy, clinical presentation and examination, imaging studies, classification of the triangular fibrocartilage complex lesions, and treatment of DRUJ instability, will be reviewed.

Anatomy

1. Bony anatomy

The axis of forearm rotation is near the centres of the radial head proximally and ulnar head distally. The radius of curvature of the sigmoid notch is 50% to 100% greater than that of the ulnar head. Therefore, translation occurs between the ulnar head and sigmoid notch, and rolling and sliding movements occur with forearm rotation. At the level of the DRUJ, the ulnar head shifts dorsally with pronation and volarly with supination. Total dorsal and volar translation of the DRUJ was 8 to 9 mm when force was applied externally in a cadaver study.[1] At the extremes of pronation and supination, articular contact decreases significantly, to as little as 10% of the articular surface area.[2] Although the sigmoid notch is shallow, its dorsal and volar rims contribute to DRUJ stability, and deficiencies in these rims due to trauma considerably reduce the stability of the joint.[3-5] In the coronal and transverse planes, the DRUJ has some variations in shape. A study has found that the slope of the sigmoid notch articular surface may be parallel, oblique, or reverse oblique relative to the long axis of the radius in the coronal plane, and that there are four different sigmoid notch shapes: flat face, ski slope, "C" type, and "S" type in the transverse plane.[4] A flat type may be associated with suboptimal outcome after soft tissue reconstruction for DRUJ instability.

2. Soft tissue anatomy

The triangular fibrocartilage complex (TFCC) is the most important anatomical structure for maintaining normal DRUJ kinematics, and is composed of the articular disc, the dorsal and volar radioulnar ligaments, the meniscus homologue, the sheath of the extensor carpi ulnaris, and the ulnolunate and ulnotriquetral ligaments (Figure 1).[6] The radioulnar ligaments are the principal stabilisers of the DRUJ. The deep limb attaches to the fovea, and the superficial limb attaches to the base of the ulnar styloid. The superficial limb becomes unstable with a fracture of the base of the ulnar styloid. The articular disc is composed of fibrocartilage that bears compressive loads through its central portion, but does not contribute much to the DRUJ stability. The ECU sheath augments the dorsal capsule and provides some stabilising effects. The ulnocarpal ligaments are thought to contribute to both DRUJ and ulnocarpal stability. Other soft tissue structures, such as the pronator quadratus, extensor carpi ulnaris tendon, interosseous membrane, and DRUJ capsule also contribute to DRUJ stability.[7]

There are some debates regarding the role of the radioulnar ligaments.[8,9] One theory is that the dorsal

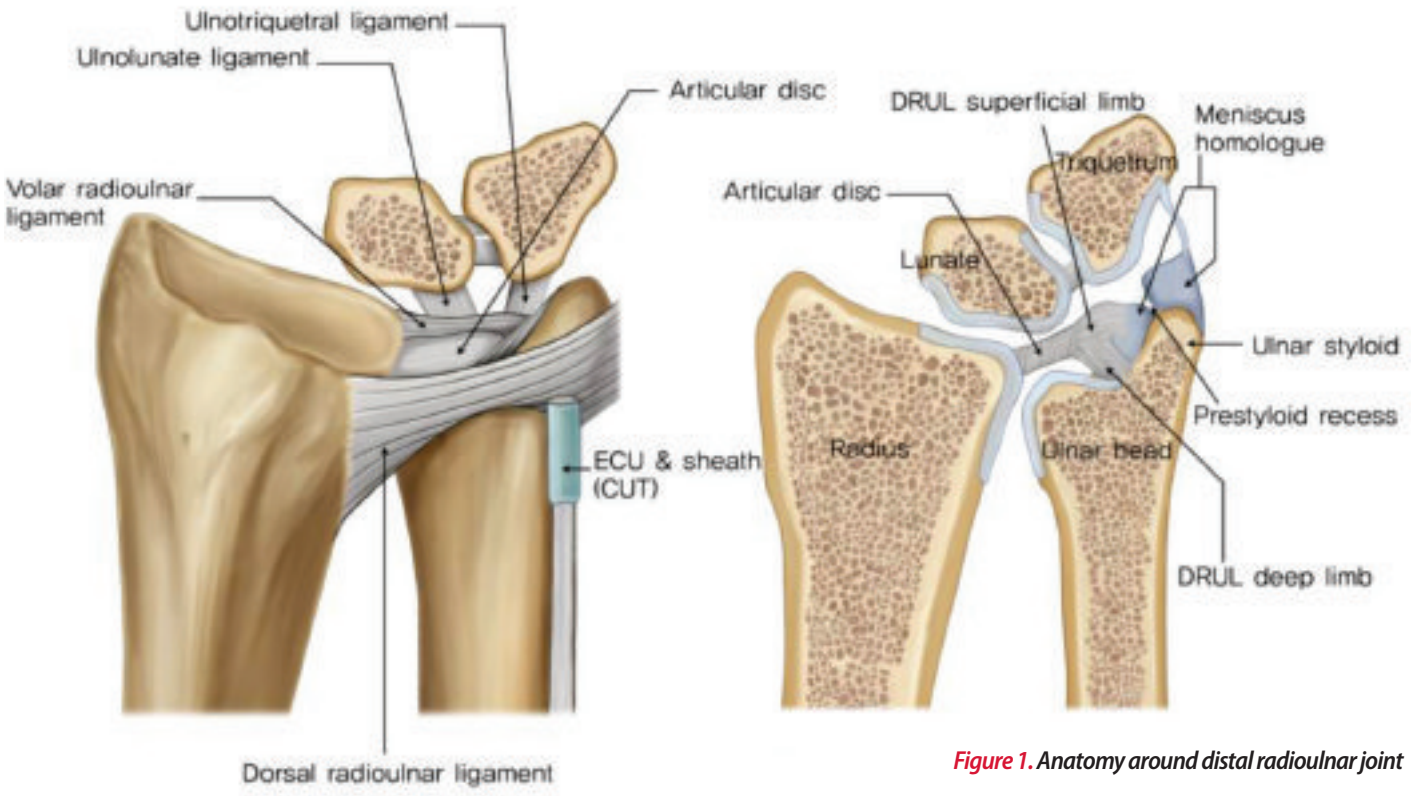


Figure 1. ***Anatomy around distal radioulnar joint***

ligament prevents the ulna from dorsal displacement during pronation and the volar ligament prevents volar displacement during supination.[8] Another theory is that the volar ligament prevents dorsal displacement in pronation and the dorsal ligament prevents volar displacement in supination.[9] An in vivo study has found that in forearm pronation, the dorsal superficial radioulnar ligament and volar deep radioulnar ligament tighten, and in forearm supination, the volar superficial radioulnar ligament and dorsal deep radioulnar ligament tighten, maintaining stability of the DRUJ.[10] Therefore, although one ligament may provide the dominant restraint, the other ligament provides a secondary restraint.

Clinical presentation and physical examination

In an acute isolated dislocation of the DRUJ, a deformity with the dislocated ulnar head, local tenderness, swelling, and limited motion can be observed. Deep tenderness along the interosseous membrane and pain at the proximal radioulnar joint may indicate a concomitant Essex-Lopresti injury.

The most common cause for DRUJ instability is a distal radius fracture.

"There are some debates regarding the role of the radioulnar ligaments. One theory is that the dorsal ligament prevents the ulna from dorsal displacement during pronation and the volar ligament prevents volar displacement during supination."

Although instability after accurate reduction and fixation of the distal radius is relatively uncommon, it is important to evaluate DRUJ stability after treatment of a distal radius fracture. Patients with DRUJ instability after a malunion of the distal radius fracture usually present with loss of forearm rotation, prominence of the ulnar head, weakness, or ulnar-sided wrist pain. A dorsally angulated malunion usually presents with volar displacement of the ulna and volar instability, and a volarly angulated malunion usually presents with dorsal displacement of the ulna that may limit forearm supination.

Patients may present with chronic DRUJ instability without a history of a distal radius fracture. The most common history is a traumatic event involving a fall on the outstretched hand or an unexpected forcible rotation of the wrist. Patients usually report ulnar-sided wrist pain of a mechanical nature that is increased

with wrist positions and activities that reproduce the mechanism of injury, such as forearm rotation or ulnar deviation of the wrist. Localised swelling, crepitus, weakness, and a sense of instability may exist. In severe cases, there may be a painful clunk and loss of rotation due to chronic subluxation. In addition, patients with ulnar impaction syndrome with a considerably large ulnar positive variance may have instability symptoms in addition to typical ulnar abutment symptoms.

The ulnar fovea sign consists of tenderness when pressure is applied to the region of the fovea, in the soft depression between the flexor carpi ulnaris (FCU) tendon, ulnar styloid, and triquetrum (Figure 2). This sign is the most specific clinical examination for injuries of the TFCC at this location.[11] The physician should test the DRUJ stability by stabilising the radius and translating the ulna to its volar and dorsal limits. The amount of translation and the firmness of the end point should be compared with the contralateral side in neutral, pronation, and supination of the forearm.
In addition, the physician should measure active and passive ranges of supination and pronation of the DRUJ. Decreased motion and crepitus during rotation are signs of DRUJ arthritis. ECU instability can be evaluated by testing for abnormal ECU motion during forearm rotation in ulnar deviation, and ECU subluxation is most apparent in supination and ulnar deviation.
In the shear or ballottement test for examining the lunotriquetral joint, the physician stabilises the lunate with one hand while manually shearing the triquetrum against the lunate articular surface volarly and dorsally with the other hand.

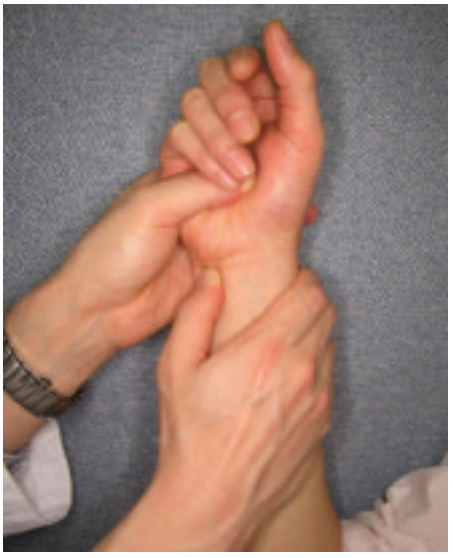


Figure 2. Test for "ulnar fovea sign"

Figure 3. Ulnocarpal stress test

The ulnocarpal stress test is useful for provocating symptoms due to articular disc tear or ulnar impaction syndrome (Figure 3). For this test, the forearm is placed vertically on the table, and the physician holds the hand and compresses the wrist ulnarly. This test is performed in neutral, pronation and supination.[12] The press test, which axially loads the wrist in ulnar deviation as the patient pushes him or herself up from a seated position, can also provoke pain by dynamic loading of the TFCC.

Imaging studies

Initial radiographic evaluation of the DRUJ includes a standard posteroanterior (PA) view and a true lateral radiograph of the wrist in neutral forearm rotation. A neutral rotation position is necessary to standardise ulnar variance measurement. A PA view with the forearm pronated and the patient making a power grip may reveal a dynamic ulnar positive variance,[14] and may reveal an increase in the DRUJ gap distance.[15] The lateral view is not accurate for the diagnosis of DRUJ subluxation, because as little as 10 degrees of rotation can make the joint appear reduced even when the joint is dislocated. The physician should search for signs of arthritic changes of the DRUJ, such as osteophytes at the ulnar head.

Computed tomography (CT) can be used to evaluate DRUJ congruency, using several methods including the Mino method,[16] the congruency method,[17] and the radioulnar ratio method.[18] As distal radius fractures frequently involve the sigmoid notch, especially the dorsal rim, the extent of involvement can be better evaluated by CT.

Magnetic resonance imaging (MRI) is the primary advanced imaging method used for evaluating TFCC injuries. Magnetic resonance arthrography (MRA) is superior to MRI in the investigation of full-thickness TFCC tear.[19]

Arthroscopy is the gold standard for the diagnosis of TFCC articular disc

tear. However, tears of the radioulnar ligaments at the radius or at the fovea are not visualised from the radiocarpal joint. DRUJ arthroscopy is necessary to see the foveal attachment. By radiocarpal arthroscopy, an avulsion of the foveal TFCC insertion can be determined by a loss of the normal trampoline effect (trampoline test) and a displacement of the TFCC radially by pulling on the TFCC using a probe (hook test) (Figure 4).

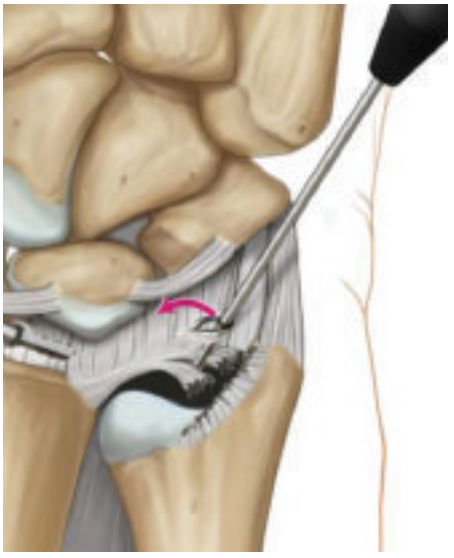


Figure 4. Radial displacement of the TFCC by pulling on it using a probe, indicates avulsion of the foveal TFCC insertion (hook test).

TFCC lesions and DRUJ instability

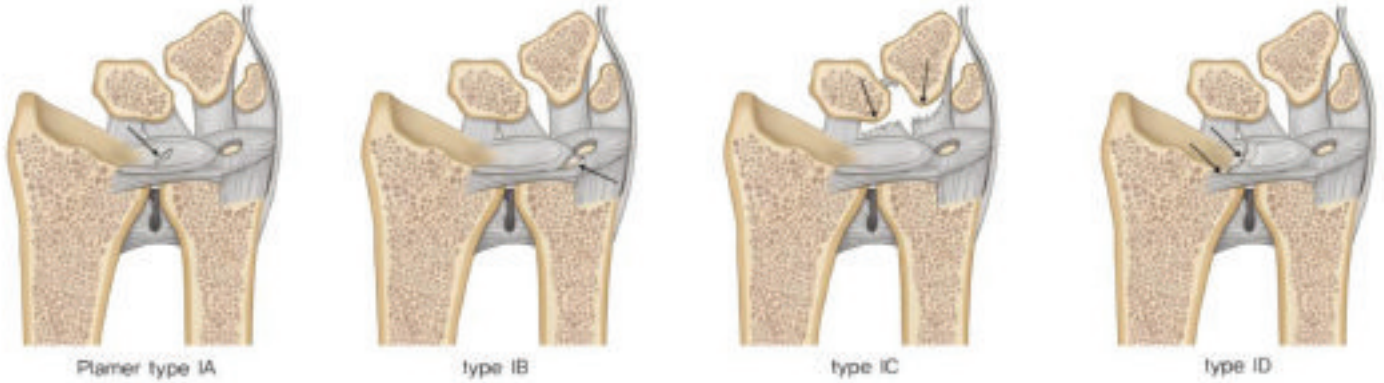
Management of an acute ulnar wrist injury needs defining the disrupted anatomic structures. Palmer's classification divides TFCC lesions into two categories: traumatic (class 1) and degenerative (class 2). Traumatic TFCC injuries are classified according to the tear location (Figure 5). Degenerative TFCC tears result from chronic and excessive loading through the ulnocarpal joint, and are classified according to the location and severity of degeneration involving the TFCC, ulnar head, and carpal bones.

The Palmer class 1A tear involves a simple tear near the radial insertion of the articular disc in the sagittal plane (anterior to posterior) because the strain is usually applied in the radioulnar axis. This lesion is relatively common and does not cause DRUJ instability. The Palmer class 1B tear involves injury to the ulnar attachment of the TFCC either by ligament avulsion from the fovea or via fracture through the base of the ulnar styloid, resulting in DRUJ instability. DRUJ instability may not be present with partial tear, and DRJU instability may be present without a styloid fracture or a tip fracture of the styloid. For this type of injury, integrity of the ulnar styloid or the radioulnar ligament should be restored, either by immobilisation or surgery. The Palmer class 1C lesion is an injury to the volar ulnar extrinsic ligaments. Complete disruption of these ligaments is rare, requiring high-energy. Most of these injuries occur in combination with class 1B tears and/or lunotriquetral ligament tears. These injuries are generally managed conservatively unless mechanical instability is present. The Palmer class 1D lesion is a partial or complete traumatic avulsion of the TFCC from the radius. These injuries usually occur with a distal radius fracture at the margin of the sigmoid notch, and do not cause DRUJ instability if the fixation and reduction of the fracture is adequate.

Treatment

Initial management of isolated TFCC injury is nonsurgical such as immobilisation with splinting, medication, and physical therapy according to the stability of the DRUJ. When the DRUJ is unstable, the forearm should be immobilised for 4 to 6 weeks, and the stability should be reevaluated.

Figure 5. Palmer's classification of traumatic TFCC injuries



When DRJU instability is associated with a distal radius fracture, accurate reduction of the fracture and maintenance of the radial alignment is important to allow stable healing of soft tissues around the DRUJ. When there is an ulnar styloid fracture, stable fixation of the radius alone without fixation of the styloid can obtain equivalent results compared with ulnar styloid fixation.[20] However, in young patients with a distal radius fracture, unrepaired peripheral tears of the TFCC can be a common cause of persistent symptomatic instability.[21] Therefore, when severe instability exists after reduction of the radius, especially in young or active patients, fixation of the ulnar styloid or repair of the TFCC should be considered. In some cases with ulnar head dislocation, reduction and fixation with temporary K-wire can be performed.

Surgical treatment of TFCC injury includes debridement and repair, and most surgical procedures can be performed arthroscopically. For the Palmer class 1A lesion, surgical treatment usually involves arthroscopic debridement of the torn flap of the articular disc and making the residual rim smooth and stable. Arthroscopic repair is used in Palmer class 1B or 1D lesion. Radial-sided detachments can be repaired using double-armed long meniscal repair sutures. Advancing age as well as postoperative ulnar positive variance are poor prognostic factors.[22] Ulnar detachment can also be repaired arthroscopically or by open technique.[23,24] Direct reinsertion of the radioulnar ligaments to the fovea can be done by using transosseous drill holes or by using a bone anchor. Type 1B lesions can be classified into reparable and non-reparable lesions.[25] Reparable tear of distal component of TFCC which shows none to slight DRUJ instability, can be repaired by ligament-to-capsule suture. Reparable tear of both components or proximal component of TFCC which shows mild to severe DRUJ instability, can be repaired by arthroscopic foveal fixation.

"Although instability after accurate reduction and fixation of the distal radius is relatively uncommon, it is important to evaluate DRUJ stability after treatment of a distal radius fracture."

The first surgical option for DRUJ instability is delayed direct repair of the TFCC. However, when repair of the TFCC is impossible, other reconstructive techniques can be used to restore DRUJ stability. Late reconstructions for DRUJ instability include 3 categories: (1) a direct radioulnar tether extrinsic to the joint, (2) an indirect radioulnar link via tenodesis, and (3) reconstruction of the radioulnar ligaments.[26] A radioulnar tether is not anatomic, and does not restore normal joint stability or mechanics of the DRUJ. Reconstruction of the distal radioulnar ligaments offers the best possibility of restoring normal DRUJ primary constraints and kinematics.

In patients with ulnar impaction syndrome and combined DRUJ instability, ulnar shortening osteotomy can improve DRUJ stability by increasing the tension of the ulnocarpal ligaments.[27,28] A recent biomechanical study found that ulnar shortening with osteotomy carried out proximal to the attachment of the distal interosseous membrane had a more favourable effect on DRUJ stability compared with distal osteotomy.[29]

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IFSSH Scientific Committee on Pain Syndromes

Chair: Andrzej Zyluk (Poland), Report submitted December 2012

Complex regional pain syndrome from hand surgeon perspective: a review

Introduction

Complex regional pain syndrome (CRPS, formerly reflex sympathetic dystrophy) is a descriptive term for a complex of symptoms and signs, including pain at rest or at the slightest movement, swelling, vasomotor instability (changes of colour, temperature and sweating) and is accompanied by severe functional impairment of the affected hand or whole extremity. It is usually caused by trauma or surgery and is characterised by presence of these symptoms and signs which are more severe than would normally be expected for the degree of trauma of the precipitating event (which can sometimes be very minor) and extend beyond the area involved by the initial trauma. CRPS is not confined to the hand and upper extremity. Involvement of the foot, knee and hip have been described and generally (although very infrequently) it can occur anywhere in the body. CRPS in upper extremity most commonly occurs after trauma or surgery, but it can occur after a stroke, heart disease or spontaneously (Zyluk, 2004).

Pathophysiology

There is lack of conclusive evidence, demonstrating the pathophysiological mechanisms leading to development of CRPS. Several theories have been proposed, including involvement of the sympathetic nervous system, abnormal inflammatory reaction, sequelae of nerve injury, central sensitisation, psychological disturbances and as a result of inactivity.

The sympathetic theory had attracted wide popularity over several decades in the last century, followed by coining the former name of the syndrome - reflex sympathetic dystrophy (RSD). Several treatment modalities have been developed involving sympathycolysis, such as stellate ganglion block and regional intravenous block with guanethidine, some of them being very effective (Hannington-Kiff, 1974; Livingstone and Atkins, 2002). This theory has been eventually questioned, because it did not sufficiently explain all the clinical aspects of the disease, however, involvement of the sympathetic nervous system in the chronic stage of the CRPS seems to be justified.

An exaggerated inflammatory response to trauma as an underlying mechanism for CRPS was postulated as early as in 1942 by Paul Sudeck and this theory has been constructively developed by Goris and his group (Goris, 1987). The role of toxic free oxygen and hydroxyl radicals in the development and maintaining an excessive inflammatory response has been supposed and confirmed (Goris, 1987, Oyen et al., 1993). An inflammatory process excellently explains all objective clinical findings in the acute stage of CRPS, such as pain, swelling, redness, increased temperature and impaired function of the extremity. Several studies showed effectiveness of treatment utilising free radical scavengers, such as mannitol, corticosteroids, N-acetylcysteine and dimethys sulfoxide (DMSO), particularly in the acute stage of the condition (Perez et al., 2001; Perez et al., 2003; Zyluk 2008). Moreover, an inflammatory component does not preclude a role of the sympathetic nervous system as a factor involved in the whole spectrum of abnormalities in CRPS, particularly in the chronic stage.

The pathophysiological role for altered central processing has recently attracted increasing popularity and received support from animal and human investigations. This theory adequately explains the peculiar pain phenomena associated with CRPS such as pain being disproportionate for the degree of trauma of the precipitating event, hyperpathia and

allodynia. The model of neuropathic pain is proposed in which ongoing nociceptive afferent input forms a peripheral focus and dynamically maintains altered central processing that accounts for allodynia, severe pain and other sensory and motor abnormalities (Gracely et al., 1992). Brain imaging by functional MRI showed changes in brain function in patients with chronic CRPS, thus giving support for altered central processing theory.

Clinical sub-types

Classically CRPS is classified into two forms: Type 1 (formerly reflex sympathetic dystrophy) and type 2 (formerly causalgia). CRPS type 1 comprises a majority of post-traumatic cases, whereas CRPS type 2 diagnosis requires evidence of nerve damage as a causative event (some authors suggest the need for objective, electrophysiological confirmation of nerve involvement). The necessity of distinguishing these two forms has been recently questioned, since in most cases nerve involvement cannot be definitively excluded and both forms are clinically identical (Harden, 2010; Oaklander et al., 2006). Likewise, the traditional, three-staged (acute, dystrophy, atrophy) evolution of CRPS has been questioned and now two forms are distinguished in the course of the condition: acute/early and chronic/late, which differ significantly with regard to symptomatology, treatment requirements and prognosis (Bruehl et al. 2002; Żyluk 1998b). There is no precise timing of passing from the acute to the chronic form, but it usually occurs

within 3-6 months after onset of the condition, with the observation that any therapeutic intervention may disturb this evolution. There is no definitive single test for confirming or excluding CRPS and diagnosis relies on clinical examination with the requirement for a sufficient number of symptoms and signs to be present (Handen et al., 2007; Harden, 2010). In the International Association for Study of the Pain (IASP) set of diagnostic criteria, four categories of features are established, including sensory, vasomotor, sudomotor/oedema and motor trophic (Table 1).

Table 1. Modified IASP criteria of diagnosis for CRPS
(Harden et al. 2007; Harden, 2010)

Presence of continuing pain, disproportionate to any inciting event	
Must report at least one symptom in each of the four categories (*)	
Sensory	Hyperalgesia and/or allodynia
Vasomotor	Temperature asymmetry and/or skin colour changes and/or skin colour asymmetry
Sudomotor/Oedema	Oedema and/or sweating changes and/or sweating asymmetry
Motor/Trophic	Decreased range of motion and/or motor dysfunction (weakness, tremor, dystonia) and/or trophic changes (skin, hair, nails)
Must display at least one sign at time of evaluation in two or more of the following categories	
Sensory	Hyperalgesia (to pinprick) and/or allodynia (to light touch, temperature sensation, deep somatic pressure and/or joint movement)
Vasomotor	Temperature asymmetry (>1OC) and/or skin colour changes and/or skin colour asymmetry
Sweating/Oedema	Oedema and/or sweating changes and/or sweating asymmetry
Motor/Trophic	Decreased range of motion and/or motor dysfunction (weakness, tremor, dystonia) and/or trophic changes (skin, hair, nails)
There is no other diagnosis that better explains the symptoms and signs	

(*) In each of four categories is a condition for research purposes. For clinical purposes a report of at least one symptom in three of the four categories is enough to meet this criterion.

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Based on our clinical experience, the following clinical sub-types of the condition may be distinguished, differing significantly with respect to symptomatology, treatment susceptibility, functional impairment and prognosis. This classification is not necessarily consistent with that officially existing in the literature, but it is based on our twenty-years clinical experience of diagnosing and treating more than 200 CRPS patients.

a. Acute (early) CRPS after fractures of the distal radius. This is a very specific and the most common form, characterised by mild to moderate clinical severity, typical symptomatology, relatively easy to treat when diagnosed early and having a good prognosis (Atkins et al., 1990; Goris et al., 2010; Żyluk, 1998a; Żyluk and Puchalski, 2008). It is believed that it can be recognised as early as 2 weeks after fracture, however this may lead to overdiagnosing, because early CRPS and the post-traumatic period display many similarities and may be interpreted in a different manner (Birklein et al., 2001; Field and Atkins, 1997). CRPS after distal radius fractures has a natural tendency to spontaneous resolution within the mid-term perspective (Żyluk, 1998a; Bickerstaff and Kanis, 1994). There is also a spectrum of patients presenting with mild, transient CRPS forms which - although meeting the criteria for diagnosis (i.e. IASP) at 1-2 months after fracture - are only moderately disturbing for patients and may be left untreated or by physiotherapy alone (Dijkstra et al., 2003; Goris et al., 2010; Żyluk, 1998b). After withdrawal of most CRPS symptoms and signs, patients can

experience some "residual" complaints as long as one year, or more, after onset of the disease (Field and Atkins, 1997; Zyluk, 2001). CRPS after fractures of the distal radius involves mainly (90%) mid- or older age women, and relatively infrequently (less than 10%) progresses into the chronic stage.

b. Acute (early) CRPS after surgery for hand diseases and injuries (carpal tunnel syndrome, Dupuytren's contracture, trigger digits, hand fractures, tendon and nerve injuries) occurs much less frequently than after fractures of the distal radius (1-2%) and is characterised by similar, typical for early condition symptoms and signs, appearing usually within one month after trauma or surgery. This form is relatively easy to diagnose, because the patients are still under post-operative control. It is necessary to differentiate this form with occult infection spreading through the synovial sheaths of the palm proximally or distally, particularly after mini-invasive surgery. We were faced with such situations and sometimes the differential diagnosis may be difficult. Women are more frequently affected, but the difference is not as big as after fractures of the distal radius. As this form is usually diagnosed early, treatment is effective, the prognosis good and recovery may be expected within a reasonable time. Very infrequently this form progresses into chronic CRPS, unless overlooked or neglected. There is no information about the natural course of this subtype, but it is probably self-limiting, likewise after distal radius fractures.

c. Chronic CRPS. As mentioned earlier, it occurs relatively infrequently.

"There is lack of conclusive evidence, demonstrating the pathophysiological mechanisms leading to development of CRPS. Several theories have been proposed, including involvement of the sympathetic nervous system, abnormal inflammatory reaction, sequelae of nerve injury, central sensitisation, psychological disturbances and as a result of inactivity."

If not spontaneously withdrawn, overlooked or misdiagnosed, the acute form passes within 3-4 months into chronic CRPS, presenting with moderate pain in the hand, mild swelling, colder and pale skin, frequently hyperhydrosis, tenderness/ hyperpathia but with prevailing finger stiffness, which gives the patients the greatest difficulties, impairs hand function and results in disability. Many of the CRPS symptoms and signs typical for the early stage may disappear, and these changes in the clinical picture may mean that the patient no longer meets the diagnostic criteria of CRPS. Obviously, it does not mean recovery, but evolution of the disease into the chronic stage. Diagnosis of the chronic form is relatively easy, but treatment is more difficult, sometimes challenging and the prognosis towards regaining normal hand function is doubtful. Unlike in acute CRPS, effective treatment is not available and even after stabilisation of the disease and partial withdrawal of most of the features the residual symptoms may be nasty and functional impairment severe (reduced finger movements and grip strength). Neurological signs may develop in a proportion of patients, such as hyperpathia, allodynia, tremor and muscle spasms (Birklein et al., 2000; Verdugo and Ochoa, 2000).

d. Chronic, refractory CRPS. This is the rarest, most severe and peculiar subtype with the poorest prognosis. It is not distinguished in the literature as a separate form, but - for practical purposes – it should be (Zyluk, 2006). Typically it develops as a consequence of trivial injuries (contusions, sprains, superficial wounds, skin infections, small operations) but rather not after fractures of the distal radius or regular hand surgery. This form involves exclusively (100%) young women. Recognised treatment modalities and rehabilitation typically fail in these patients, but specific treatments, directed on the disease such as "mirror therapy" may be useful. Patients suffering from this form of CRPS display mild to moderate psychological disturbances and are susceptible to depression, but it is difficult to distinguish whether it is a cause or a consequence of this disabling, painful disease (Puchalski and Żyluk, 2005).

Diagnosis

Diagnosing CRPS may be difficult for several reasons: (a) there is great variability in the presence and severity of specific symptoms and signs; (b) the syndrome comprises a broad spectrum of clinical forms, i.e. acute, chronic, causalgia, shoulder-hand syndrome and sympathetically mediated pain. These forms differ with respect to the symptomatology, treatment modalities and prognosis; and (c) the acute and chronic forms are very different. Acute CRPS is characterised by pain at rest, swelling, redness, increased temperature of the hand and reduction of movement because of the pain. Chronic CRPS is characterised by pain, tenderness, hyperpathia/allodynia, pallor, reduced temperature, hyperhydrosis and digital stiffness. The diagnosis of CRPS is based on clinical grounds and the presence of a specified constellation of symptoms and signs is required to make the decision. The presence of pain is considered obligatory to the diagnosis. No specific test is known to confirm or exclude CRPS diagnosis and imaging such as radiography, bone scintigraphy, CT and NMR have limited influence on decision making (Marshall and Crisp, 2000; Żyluk, 1999). To date no formal, standardised diagnostic criteria for CRPS have been widely accepted. The International Association for the Study of Pain (IASP) criteria of diagnosis, both the original (Merskey and Bogduk, 1994) and the modified forms (Table 1) (Harden et al., 2007; Harden, 2010) have recently attracted increased popularity and are frequently used in scientific studies

Early diagnosis of CRPS and initiation of treatment appears beneficial, because early CRPS is relatively easy to treat, its prognosis is good and full recovery can be expected within a reasonable time. In contrast chronic CRPS is - in most cases - a disabling condition with a poor prognosis and limited treatment options. As early diagnosis of CRPS is extremely important, a practical protocol has been introduced in author's institution. The following three conditions are necessary to consider CRPS as the most likely diagnosis:

(1) presence of diffuse pain in the hand/extremity, spontaneous or at the slightest movement,

(2) functional impairment of the hand or extremity, and

(3) non-existence of any disease that might explain the problem.

Presence of all other symptoms and signs, their number and severity are of secondary importance, because their occurrence is variable, dependent on many circumstances, such as predisposing event, stage of the disease, received treatment or physiotherapy. Therefore, when a patient presents with a painful and functionally impaired hand following trauma or surgery, CRPS should be considered seriously, after exclusion of all other possible conditions, such as, e.g. infection, acute arthritis, tendovaginitis, acute carpal tunnel syndrome or neglect-like syndrome. The presence, absence and intensity of secondary features, including swelling, vasomotor disturbances, sweating and trophic changes as well as neurological symptoms are of minor importance, if there is no other explanation for pain and impairment. No other examinations, such as biochemical tests, imaging or electrodiagnostics are necessary for establishing the diagnosis which is purely clinical.

"It is also a common belief that early mobilisation and prompt physiotherapy prevent the development of CRPS after fractures."

Treatment

CRPS is a syndrome of an uncertain prognosis, hence it was reported that a majority of early forms tend to spontaneous resolution within one year or earlier (Bickerstaff and Kanis, 1994; Zyluk, 1998a). Progression to the chronic stage is uncommon, but if it occurs, significantly worsens the prognosis, although does not preclude success of the treatment (Perez et al., 2003). Treatment of CRPS, when commenced early, results in recovery in 80-90% of the cases, including relief of the pain and restitution of the function of the hand. Treatment of chronic forms is much more difficult and usually at this stage a control of the pain is considered a success, but function of the affected hand remains poor. The rate of recovery in chronic CRPS is about 20% (Zyluk and Puchalski, 2008).

Various treatment methods have been used for CRPS, including those showed in Table 2. The most commonly

treatment modalities reported in the literature include sympathetic interruptions, calcitonin and various form of physiotherapy (Bickerstaff and Kanis, 1991; Livingstone and Atkins, 2002). The effectiveness of these treatments is not definitively proven and they are used in different stages of the syndrome. Early forms of CRPS are commonly treated with physiotherapy, calcitonin and free radical scavengers (Bickerstaff and Kanis, 1991; Goris, 1985; Zyluk and Puchalski, 2008). At this stage, one may expect a significant reduction of pain within 1 month and improvement of finger movement after 1-2 months of outpatient treatment. The rate of recovery is reported up to 90%, although, complete restoration of hand function is rarely achieved earlier than after 1 year from the onset of the disease. In the chronic form of the CRPS the treatment is much more difficult and recovery rate does not exceed 20% (Zyluk and Puchalski, 2008).

Treatment of CRPS by free radical scavengers has been introduced by Goris (1985). This therapy is based on the assumption that CRPS is caused by an exaggerated inflammatory response to trauma, mediated by an overproduction of toxic oxygen and hydroxyl free radicals (Goris et al., 1987; Oyen et al., 1993). Several substances were used including topical dimethyl sulfoxide (DMSO), mannitol and N-acetylcysteine, all of them having propriety to neutralise toxic free radicals. A combination of mannitol and steroid, dexamethasone in an original method intended for early CRPS, which has been introduced in author's institution (Zyluk and Puchalski, 2008).

'Szczecin' treatment protocol for early CRPS

Our institutional treatment protocol for acute CRPS includes administration of 10% mannitol, 250 ml twice a day by intravenous infusion, combined with dexamethasone 8 mg a day, injected intravenously in a bolus. In the course of the treatment, no particular physiotherapy is applied, except encouraging the patients to elevate the hand and to move the fingers in the painless range of motion, both passively and actively. Patients are motivated to profit by analgesic and anti-oedema effect of the drugs to achieve full finger flexion at 1 week. One can call it a psychological feedback done by the medical staff, although it was not conducted according to clearly designed protocol. An important element of this therapy is an in-patient regime. The majority of CRPS patients, even with short lasting disease, were frightened and tired because of experienced progression of complaints and disability after trauma, in spite of improvement. Usually this anxiety was exacerbated by unawareness of the nature of these complaints and ineffective outpatient treatment. An admission to the hospital, explaining why and how the syndrome develops and assurance of the possibility of recovery are important, positive psychological stimuli augmenting the effectiveness of the drug therapy, and motivating the patient to better compliance in reaching the assumed aim of the therapy. Another important element of our protocol is making the diagnosis as early as possible, to prevent progression to the florid, fully-symptomatic form (see above institutional diagnostic criteria for early CRPS). Even the diagnosis of the "incipient" CRPS Type 1 is made in patients who complain of pain, swelling

Table 2. Methods used in the treatment of CRPS Type 1

- Free radical scavengers (mannitol, dimethyl sulfoxide, N-acetylcysteine)
- Regional intravenous steroid blocks
- Systemic steroids
- Regional intravenous sympathetic blocks (with guanethidine, bretylium, ketanserin)
- Sympathetic ganglia blocks (i.e. stellate ganglion block)
- Sympathectomy (cervical or thoracic)
- Systemic sympathycolysis (fentolamin, fenoksybenzamine, buflomedil)
- Salmon calcitonin
- Epidural administration of analgesics and other drugs (i.e. clonidine, baclofen)
- Continuous epidural anaesthesia with bupivacaine
- Continuous brachial plexus blocks with bupivacaine
- Transdermal, electric nerve stimulation (TENS)
- Direct stimulation of medulla spinalis
- Antidepressants (i.e. amitryptyline)
- Anticonvulsants (phenytoin, gabapentin)
- Thalidomide

and reduction of finger movement as early as 1-2 weeks after trauma or surgery. These patients are immediately given treatment with our protocol what allowed us to prevent effectively the progression of the disease in many cases. Until now, almost 100 patients suffering from acute CRPS have been treated according to this protocol, with permanent improvement obtained in 95% of them (Zyluk and Puchalski, 2008).

In contrast, we have failed to work out a reliable, effective treatment for chronic CRPS. Attempts have been made with use of regional intravenous steroid blocks, with moderate outcomes, but no permanent functional recovery achieved. Patients having signs of sympathetic hyperactivity and responding positively to intravenous phentolamine (relief of pain, warming of the affected hand) received regional, intravenous sympathetic blocks with good results for several weeks, but not permanently. For chronic CRPS patients we also regularly use an anticonvulsant - gabapentin and an antidepressant - amitrypyline as a supportive therapy, which alleviate pain and is well tolerated by the patients. Some of them had implanted spinal cord stimulators (in neurosurgical department), but its effectiveness is rather modest. Fortunately, patients with chronic condition suffer less from pain, but more from stiffness and partial disability of the hand. They usually adapt well to reduced dexterity of the hand and their functioning in daily living is typically "acceptable".

As it was mentioned earlier, the results of treatment of early CRPS are satisfactory, however, resolution of the acute problem does not always restore normal function. Pain related to the weather, reduction of finger flexion and extension, weakness of the hand, cold intolerance and numbness of the fingers can persist over the years and can impair function of the hand and/or be the source of considerable discomfort to the patients. Therefore, the term "recovery from CRPS", particularly in chronic disease not always means return to normality (Żyluk, 2001).

Prevention

There are no specific measures which are known to prevent CRPS after trauma of surgery. It was suggested that careful operative technique, knowledge of anatomy, avoidance of nerve traction and proper postoperative care can reduce of CRPS after operations. It is also a common belief that early mobilisation and prompt physiotherapy prevent the development of CRPS after fractures. Therefore, operative treatment of fractures would result in reduction of the risk of CRPS. However, although these factors are (in general) important determinants of the effectiveness of the treatment, their relationship to CRPS has not been scientifically confirmed. Reduction of CRPS incidence has been shown in patients after fracture of the distal radius by a two-month administration of oral vitamin C, but this beneficial effect has not been confirmed by other studies (Zollinger et al., 1998). In patients with a history of CRPS, a new injury or operation to that (or contralateral) extremity is known to increase the risk of a recurrence. Therefore, specific measures are recommended such as avoiding a tourniquet at the operation, pharmacological prevention by mannitol, calcitonin, steroids or vitamin C. However, the necessity of use of these measures has been questioned in some studies, showing that risk of a new episode of the condition in patients who recovered from CRPS is minimal (Zyluk, 2004).

In this paper we present some impressions and thoughts about CRPS which we have found useful in our proceedings with CRPS patients. Most hand surgeons, have been, or (sooner or later) will be faced with this problem. We believe that the information presented may support hand surgeons in resolving their diagnostic dilemmas associated with CRPS.

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The Rehabilitation of Flexor Tendon injuries in Zone 2

Fiona Peck MCSP

Note:

The reader's attention is drawn to the fact that Ms Peck's description of the flexor tendon rehabilitation protocol is different from what has generally been accepted over the years. She describes an innovative method of splinting after a flexor tendon repair in Zone 1 and 2. In Manchester they have removed the forearm portion of the well-known dorsal protection splint "for robust 4 strand repairs". They now splint all patients with this type of injury in a hand based splint only, as can be seen in figures b and c. Ms Peck reports that "the results are markedly better and it is safe". In Manchester they feel this is the way of the future. This new type of splint is compatible with the stronger repairs performed by the hand surgeons. They have also found that patient compliance with regards to wearing the splint is good, as they find the splint more comfortable to wear than the forearm based splint. We invite comments from our readers regarding this innovative approach. Send your feedback to ezine@ifssh.info

Hand Therapy Editor,
Corrianne van Velze

Introduction

In recent years a significant amount of research in the field of flexor tendon Injury has contributed to advances in both surgery and rehabilitation. The evolution of multi-strand repair techniques has significantly improved the quality and strength of flexor tendon repairs, but despite these advances, postoperative rehabilitation regimens remain largely unchanged and globally diverse with no definitive regimen guaranteed to produce a favourable outcome1, 2, 3.

A Cochrane review concluded that there was no firm evidence to define the optimum mobilisation strategy but there is a considerable amount of supporting literature to suggest that carefully devised rehabilitation regimens are critical to restoring tendon glide following primary flexor tendon repair in zone 2 4,5,6.

The ultimate goal of both the surgeon and the therapist is to minimise and modify peritendinous adhesions and promote optimal tendon glide. At the same time the tendon repair must be protected from excessive stress in order to avoid gapping or rupture.

Therapists managing these injuries require not only specialised knowledge in the field but the ability to use advanced clinical reasoning skills to select appropriate postoperative exercise programmes. Early active motion in different forms, used in conjunction with multi-strand repair techniques, has gained increasing popularity, but application depends upon consideration of a number of variables.

Customising a regimen

Therapists with the responsibility for the selection of rehabilitation programmes must be well informed with regard to a variety of different factors:

- Mechanism, type and severity of injury
- Number and type of structures damaged
- Zone of injury
- Length of time from injury to repair
- Type, quality and strength of repair
- Patient characteristics and compliance

Specialised hand therapy clinics with easy access to expert medical and nursing staff provide the best environment for the treatment of these injuries. Ideally there should

Fig A: The traditional forearm based splint for all Zones of flexor tendon injury. Fig B: The Manchester Short Splint allows 45° wrist extension and facilitates active digital flexion. Fig C: The Manchester Short Splint allows maximal wrist flexion and facilitates interphalangeal joint extension.

be a good working relationship and excellent communication between the surgeon and the therapist. Access to accurate medical records is also vital to the process and clear recording of operative details will provide the therapist with the relevant information7.

Principles of treatment

Adherence to certain principles is also vital to the safe and effective postoperative treatment of these injuries. The exercise regimen should be safe, preventing rupture or gapping of the tendon by minimising the work of flexion and effective in promoting differential tendon glide within the 'safe zone' 8,9. It should also be designed to prevent joint contracture and be simple to perform, as this may impact patient compliance.

Splinting

A dorsal thermoplastic splint is essential for protection. In a robust uncomplicated repair, this is usually worn for 6 weeks. The traditional splint for all zones of injury has been forearm based with the wrist in neutral or slight flexion and the metacarpophalangeal (MP) joints in 60° – 70° flexion. (Fig a)

However, in 1988 Savage suggested that a wrist position of 45° extension was optimal for minimising the force required to move the interphalangeal (IP) joints against passive resistance. Other authors have confirmed the superiority of synergistic wrist motion on tendon glide10,11,12.

In zone 2 injuries two part splints hinged at the wrist have been developed to allow wrist extension, but these can prove difficult and time consuming for the therapist to construct and too complex for the patient to manage13.

In Manchester we have removed the forearm part of the splint for compliant patients with uncomplicated repairs. The splint is fabricated to finish at the proximal wrist crease, allowing the wrist to extend to 45° during active digital flexion and to flex during active digital extension. (Fig b and c). Preliminary results are encouraging with improvements in the arc of flexion and a reduction in the severity of extension loss at the IP joints, with no increase in

the rupture rate.

If an active motion programme is appropriate, care must be taken in the positioning of the MP joints. In an oedematous finger, where there is resistance to tendon glide. Placing the MP joints in excessive flexion, will bias motion to the proximal interphalangeal (PIP) joint and force the patient to attempt distal interphalangeal (DIP) joint flexion at the end of range, thereby increasing the work of flexion.

A common complication of injuries in zone 2 is cross union of the flexor tendons. During active motion it is paramount that motion is initiated from the DIP joint to optimise differential glide. Therefore, a position of 30° MP joint flexion is both effective and comfortable14.

Another significant complication of digital flexor tendon injuries is loss of extension at both the PIP and the DIP joint. Fixed flexion deformities of the IP joints develop early and once established, are difficult to treat. The protective dorsal splint should therefore facilitate maximal active IP extension and in addition, provision of a night splint to maintain extension of the injured digit, is advisable.

Exercise regimen

Timing of motion

In uncomplicated repairs an active motion regimen is desirable to preserve tendon glide. Studies have shown that the presence of oedema will increase the work of flexion and that this will increase in the first few days following surgery, peaking around the 3rd or 4th day. It is therefore judicious to commence the exercise regimen when the gliding resistance is likely to be lower at around the 4th or 5th day postoperatively15,16.

Passive motion

Prior to initiating an active motion regimen, maximal passive digital flexion should be restored. This will assist in reducing the work of flexion on the repaired tendon. (Fig d) Passive IP joint flexion subjects the repaired tendons to forces well below the breaking strength of the repair and is therefore safe.

Stretching into flexion should be performed over the entire range and

Fig D: Passive flexion exercises are a vital part of the regimen. Fig E: A splint guard is required for those patients who require greater protection. Fig F: Very young children and babies require an occlusive dressing to immobilise the hand.

will also prevent tightening of the dorsal structures and joint stiffness. Passive motion alone however, will not be sufficient to modify peritendinous adhesions and maintain tendon glide.

Active motion

The suggested benefits of active motion have been well documented and controlled active motion is now considered to be safe in compliant patients with a robust repair17. Active motion should only be performed when the work of flexion is likely to be at a minimum, ie. when passive motion has been regained and initial postoperative oedema has subsided. Motion should be initiated at the DIP joint to maximise differential glide. During the early phase of rehabilitation motion should be confined to the outer range or first third of flexion.

Resistance to digital flexion increases over the first two thirds of flexion increasing 5 - 10 fold in the final third. This increase will be compounded by changes to the gliding curvature, in cases of pulley loss or injuries to the tendon sheath18.

Early full range of flexion is not necessary or safe and care should be taken if using a 'place and hold' regimen, that patients are not required to put a great effort into holding a full fist position. 'Place' is a passive action but 'hold' requires an unmeasured active force and in an oedematous finger the position of the tendons within the sheath system is not predictable.

Active IP joint extension exercises are a vital part of the regimen and should be performed regularly to prevent the loss of extension at the IP joints, which is a common complication following this type of injury. Table 1

Frequency of exercise

There is no general consensus across the literature with regards to frequency of exercise and the number of repetitions. Passive flexion exercises should be performed with sufficient frequency and repetitions, to achieve a mobile finger prior to active motion. Most published exercise regimens recommend hourly or 2 hourly exercises with 10 repetitions.

Rupture

The prevention of rupture is a major goal of both the surgeon and the therapist and whilst stronger repair techniques have reduced rupture rates, gapping or dehiscence of repairs may still occur as a result of infection, technical issues or excessive stress. Accidental or deliberate inappropriate resisted function of the hand will rupture even the strongest repairs and during the first 6 weeks, despite advice to the contrary, many patients, will continue to use the affected hand within the splint19,20.

The use of mobile phones can be especially problematic and it is therefore advisable to instruct the patient in the safe use of the hand by excluding the injured digit during any functional activity. In patients who are unable to comply, such as young children, a splint guard is imperative. For babies and the very young, immobilisation in an occlusive dressing is required. (Fig e, f)

"The evolution of multi-strand repair techniques has significantly improved the quality and strength of flexor tendon repairs, but despite these advances, postoperative rehabilitation regimens remain largely unchanged and globally diverse with no definitive regimen guaranteed to produce a favourable outcome"

The Manchester regimen for the rehabilitation of flexor tendon repairs in zone 2

Table 1. Rehabilitation regimen for uncomplicated tendon repairs in zone 2

- Attend outpatient clinic at 4 to 5 days post operatively
- Theatre dressing removed and wound check
- Protective dorsal splint applied to be worn for 6 weeks
- Prioritise restoration of full passive digital flexion
- Initiate early active motion from the DIP joint within the 'safe zone'
- Discourage early full range of active motion
- Encourage active digital extension exercises
- Apply digital extension splints to be worn at night in the event of early loss of extension or joint injury
- Perform safe, functional activity
- Remove splint at 6 weeks and progress light functional activity
- At 6 weeks commence stretching and splinting of residual flexion deformity or tight scarring
- Apply a night extension splint as appropriate
- Return to normal activity between 10 and 12 weeks

Measuring outcome

Measurement of range of motion of the IP joints using a goniometer, remains the most accurate assessment of result. The use of the 'Strickland Formula' is currently the outcome measure by which hand units across the globe can compare their results against published data. This method which uses 175 as the standard, does not take into account the normal range for the individual patient and does not advise time scales for a final outcome21. It may, therefore, be more appropriate to use a percentage of the range in the uninjured hand as a more accurate indicator of outcome22.

The future

Prevention of rupture, preservation of tendon glide and prevention of deformity with resultant restoration of normal function will remain the goals of rehabilitation for all therapists in this field. In the pursuit of these goals the modern hand therapist must be prepared to modify their practice in line with advances in surgical techniques and scientific developments and to adapt treatment regimens to the daily functional requirements of the patient .

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The magic of hands

A magical idea to increase the awareness of hand surgery among the public in India

Dr S. Raja Sabapathy

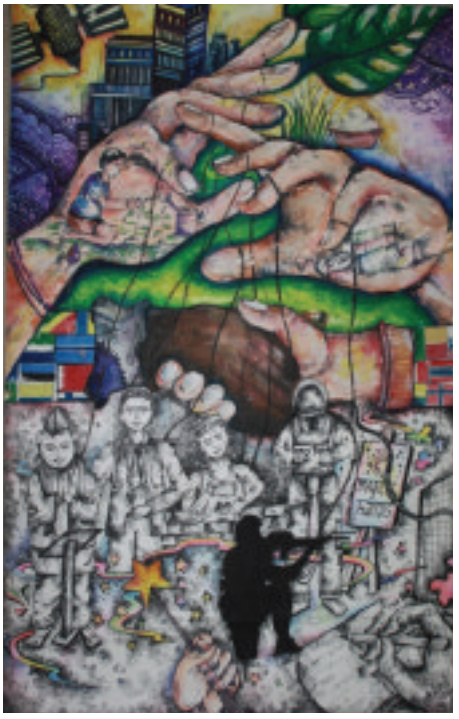
All of us know that our hands are very valuable but in most countries, people are not aware that there are specially trained Surgeons to take care of the problems of the hand be it an injury or a deformity.

When India played host to the 12th Triennial Congress of the International Federation of Societies for Surgery of the Hand and 9th Triennial Congress of the International Federation of Societies for Hand Therapy, the Organising Committee wanted to increase the awareness of Hand Surgery amongst the public. Though Hand Surgery in India existed ever since the work of Paul Brand, it has not become a household name. The responsibility for popularising it lies also on the individual Hand Surgeon and the Hand Society. We thought that we need some 'out of the box' idea to make a rapid and lasting impression among the masses. The Organising Committee thought that the best way was to introduce it to school children and through them to their parents and families.

An idea of a national level painting competition for the children was thought of. It was organised for children between Standard VI to Standard IX (11 to 15 years) and we asked them to paint the hands they saw. We offered fabulous prizes. We announced that the first 50 paintings chosen will each be awarded Rs.10,000/- and the school to which the first prize winner belonged will get a lofty prize of Rs. 500,000/-. The prize money to the school was to be used for building up a library or laboratory and for the promotion of arts and science in the school for the benefit of the children. The prize money offered was very substantial by Indian standards.

The programme had to be done in a short time frame and so we sought the services of a famous Advertising Agency M/s Stark Expo from Trivandrum. To get the newspaper publicity we requested Mrs. Sonia Gandhi, the Chairperson of the United Progressive Alliance, the ruling party of India to launch the competition. Mrs. Sonia Gandhi was very kind enough to do it on 28th January, 2013. WE sent an information kit, which in addition to

***LEFT:** Mrs Sonia Gandhi launching the 'Magic of Hands', campaign . Mrs Nirmala and Dr Raja Sabapathy and Dr Meera and Dr Rakesh Khazanchi are in the picture.*



***ABOVE:** The first prize winning entry: Rural Scenario. By Master Midhun. 'A lump of clay in the potter's hand is tomorrow's earthenware'. **RIGHT:** Joint first prize winning entry: Ms Rupali Goel. 'Puppet's Show'- Just like puppets in the hands of the controller, the world too is a puppet in the hands of the common man'.*

the rules of the competition and the application form also contained a note about Hand Surgery and the congress.

Over 2000 schools were contacted in 3 weeks and a total of 1800 participation kits were mailed. The response was overwhelming and 4250 entries were received from 512 schools from across the country in 15 days! 200 entries were shortlisted by 2 Professors of the Arts College in Trivandrum. The selected entries were brought to Coimbatore, the Head Quarters of the Organising Committee. Three notable artists were asked to judge. The judges had a tough time in placing the merit list. Two paintings were awarded the joint first prize of Rs.2,50000/- each, one by Mast P.P. Midhun., Azhikode High School, Kannur, Kerala and the other by Miss Rupali Goel, of Vishwa Bharati Public School, Noida, Uttar Pradesh. Each of them was asked to give a note on the painting and Mast. Midhun captioned his painting as "Rural Scenario - A lump of clay in the potters hand is tomorrow's earthenware" and Miss Rupali captioned her painting as "Puppet Show Painting – Just like puppets in the hands of the controller, the world too is a puppet in the hands of common man". The first 50 prize winning paintings and another 100 were mounted and adorned the walls of the congress halls and it made a spectacular show. At the end of the congress, the paintings were auctioned and the President of IFSSH, Professor Mennen and the President Elect Dr Tonkin bought the first prize winning paintings.

After the congress was over, the Dr Raja Sabapathy visited the Azhikode High School at Kannur, Kerala to hand over the cheque to which Mast.

Midhun belonged. It was a great day of rejoicing for the whole school. The students had decorated the school with flowers, festoons and balloons. Their art teacher spoke with a lot of enthusiasm about the students and their capabilities. Dr. S. Raja Sabapathy gave a talk to the students in simple terms about the the intricate nature of the human hand and it was well received by the audience. At the end of the talk the 1000 students raised their hands which were a spectacular sight to see. Mast. Midhun said that he had used his prize money to buy a laptop computer. The prize had enthused him to take up art as his career. Dr Rakesh Khazanchi the Organising Secretary, visited the school in Greater Noida to which the joint prize winner Miss Rupali Goel belonged and handed over the prize. Both the schools have planned to set up an arts school and library and also and enhance their laboratory facilities.

***ABOVE:** Dr Raja Sabapathy addressing the children on 'Hands'.*
***RIGHT:** Enthusiastic children at the end of the meeting!*

Hand Surgery is about touching lives and through this project the Surgeons attending the international congress touched the lives of children by improving the facilities for their study. The first 50 winning entries were made into a book and it is available for a price of US$ 20. In addition to the paintings the book also contains interesting facts about the hands. The book is becoming popular and many people consider it a worthy gift to give. If you are interested in getting a copy, please contact Dr S. Raja Sabapathy at rajahand@vsnl.com or Mob.91-98422 19328. You can rest assured that this amount goes to the cause of promoting Hand Surgery.

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Does CRPS really exist?

Spain

This issue of the IFSSH ezine includes the IFSSH Scientific Committee report on Pain Syndromes. The Committee is chaired by Andrzej Zyluk and the report is presented on pages 24 to 31. The subject of CRPS creates some controversial responses. The opinions of two experienced hand surgeons are included here.

"In my view, diagnosing CRPS is bad for the progress of science and for the patient."

Dr F del Piñal recently published a controversial editorial column in the European Volume of the Journal of Hand Surgery in which he argued the case that reflex sympathetic dystrophy (RSD) or Complex Regional Pain Syndrome (CRPS) does not exist. Dr del Piñal works in private practice and is the head of Hand and Wrist services at Mutua Montañesa in Santander, Spain. In addition, he is the Secretary General the European Wrist Arthroscopy Society, as well as editor of the Journal of Hand Surgery (European Volume).

The IFSSH ezine editorial team asked him a few questions about his column and the response it elicited. His replies were as follows:

What response have you had from readers since the journal was published?

Dr F del Piñal: I have received all types of responses - from applause to disbelief and (very little) rejection. Overall, mostly applause, and most importantly, many have said that it has made them reconsider the way they were approaching the problem.

What response were you hoping to have from the reader community?

Dr F del Piñal: Perhaps I was expecting more rejection and less support. As I said, even the group of surgeons who believe in the existence of CRPS considered the fact that the condition is overdiagnosed.

What inspired you to write the column?

Dr F del Piñal: Several things concomitantly. I realised that the signs and symptoms of CRPS were not specific. As a matter of fact, most diseases have one or more of the 'specific' signs and symptoms of CRPS at some stage of the evolution.

I also noticed how easy this diagnosis is given to patients by some (surgeons and non-surgeons), and how difficult it is for a patient to get rid of the stigma of having been diagnosed with this condition. Shockingly, nobody wanted to operate on a patient who had been diagnosed with CRPS, even when this diagnosis had been made by a paramedical!

Concurrently, I was seeing a number of patients for a second opinion who had been previously diagnosed (and treated) with CRPS. When I studied and investigated them I always found a treatable cause for their 'pain' and I was even (at times) able to cure them. Furthermore, I realised that CRPS offers an unparalleled shelter for bad doctoring and for all our own bad results. In other words, transferring the blame onto the patients' 'sympathetic mediated pain' rather than accepting our bad results or our lack of knowledge.

In small circles, other surgeons started to question this condition too and somewhat started a similar way of thinking. To sum up, I just voiced what other professionals were thinking: that the diagnosis of CRPS was not an

absolute truth, that the diagnosis of CRPS was made superficially, and that if improperly diagnosed, a patient with CRPS had to wander from one surgeon to another without receiving attention as they were rejected for fear to worsening the condition (which might have never existed in the first place!).

If CRPS does not exist, as you argue, how will this benefit the hand surgery profession - and patients?

Dr F del Piñal: In my view, diagnosing CRPS is bad for the progress of science and for the patient. When a patient is being diagnosed with CRPS the investigation process stops. The surgeon/professional has found a niche for the patient condition and is satisfied with the search. However, if the CRPS does not exist, multiple conditions will not be identified because they have been placed in the CRPS niche. In short, science will not advance.

The patient who has a real problem but has been diagnosed with CRPS will receive symptomatic treatment, nothing else. Most of these patients need to tackle the root of the problem, in order to stop the circle of pain and inflammation. To sum up, by not resorting to this handy diagnosis, the patients will be appropriately investigated and treated; several unknown conditions will be discovered; and last but not least, bad doctoring will not find an official condition in which to shelter.

What inspires you most about working in your profession?

Dr F del Piñal: When a hand suffers a severe injury the quality of life of the patient, the competency for doing daily living activities and the ability of the patient to earn their living is adversely altered. This is an enormous burden for patients and families, and suffering is immense in some cases. Well-executed surgery can reverse this gloomy perspective. Unfortunately, hand surgery is an extremely complex specialty, and there are still some areas of unknown that we should work together to discover. I think we will do an enormous favour to future generations by working together to tie up the remaining loose ends in order to put CRPS out of our books and to forget it as a bad nightmare in our profession's past.

JOURNAL REFERENCE

Journ Hand Surg Eur Vol July 2013 vol. 38 no. 6 595-597 [http://jhs.sagepub.com/content/38/6/595.full]

Complex Regional Pain Syndrome: a review

United Kingdom

Dr Jeremy Field, Cheltenham General Hospital in Cheltenham recently undertook a review of Complex Regional Pain Syndrome in the European Volume of the Journal of Hand Surgery. Complex regional pain syndrome, formally known as reflex sympathetic dystrophy, is a poorly understood condition that describes a collection of clinical symptoms and signs occurring in the peripheries most commonly after trauma.

"CRPS such a poorly understood condition because the symptoms and signs are somewhat vague, there is no diagnostic test and we don't know the aetiology of the condition. We know a chronic debilitating condition occurs but we don't know why. Doctors are always fascinated by conditions they don't understand. They want to be able to cure it. They can't cure it if they don't know what causes it," Dr Field explains.

In his article Field outlined some of the most significant recent advances in the knowledge of the aetiology, classification treatment of this condition. "Of the many names for the condition, CRPS is widely recognised. It was derived by consensus at a pain

symposium in 1993 but does lack validation. CRPS type 1 is when the condition does not involve direct nerve trauma, CRPS type 2 is when there is direct injury to a nerve. There are now fairly well defined diagnostic criteria for the condition called the Budapest criteria," he continues.

He believes that there are various precipitating factors involved in the aetiology of the condition, with trauma accounting for 65% cases. Other factors are strokes, heart attacks, inflammatory diseases, smoking and more recently, raised HLA-DR. "Psychological factors have been thought to have been involved, though these suspicions have been largely dispelled, alterations in the mapping of the limb in the sensory cortex have been identified indicating that the cause may be central rather than being totally peripheral," he says.

Although Field explains that there is no one treatment for this condition, physiotherapy is vital. "Most CRPS patients with chronic pain should be offered analgesics, and due to the uncertainty re the diagnosis, and the fact that in the US there are no drugs specifically approved for the condition, drugs used in post herpetic neuralgia are recommended: paracetamol, anti-inflammatory agents, amitryptylline and gabapentin," he says, adding that sympathetic blockade was found to be no more effective than saline in a controlled trial, but the local anaesthetic arm had a longer lasting effect. It may be that sympatholytics are beneficial in the acute phase of the condition but not so in chronic cases.

His inspiration to work in this field stems from the fact that this condition occurs most commonly in the hands and that "unfortunately no hand surgeon is immune from seeing the condition and also even more unfortunately from having directly caused it by their surgery."

"Unfortunately no hand surgeon is immune from seeing the condition and also even more unfortunately from having directly caused it by their surgery."

For Field, a multidisciplinary approach is essential when treating CPRS. "Involved in the team should be Hand Therapists, Surgeons, Anaesthetists (Pain specialists) and Psychologists. Each should be able to make the diagnosis independently and involve each of the other members in the team as soon as possible. As soon as the diagnosis is suspected involvement with the whole of the multidisciplinary team (MDT) should be instigated. Ideally there should be a CRPS meeting involving all members of the MDT on a weekly basis so the diagnosis can be made, early, so that early treatment can be instigated. It is also important for the team to be able to exclude those patients that do not have the condition," he explains.

When asked what are the most important things every hand surgeon should know about this condition, Field replied:

1. How to recognise the condition – it is a clinical diagnosis there are no diagnostic tests.
2. Get the MDT involved early so that the diagnosis can be confirmed and early treatment instigated.
3. Early movement is vital, therefore pain must be relieved early in order for the hand therapist to get the hand moving again.

JOURNAL REFERENCE

J Hand Surg Eur Vol July 2013 vol. 38 no. 6 616-626 [http://jhs.sagepub.com/content/38/6/616.abstract]

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Pioneers in Hand Surgery

S. Benjamin Fowler, M.D.

Dr Fowler received his premedical education at Vanderbilt University in his native town of Nashville, Tennessee. He graduated from the University of Tennessee School of Medicine, Memphis, in 1937, and did his internship at the Nashville General Hospital. After completing his orthopaedic residency at the Orthopaedic Hospital of Los Angeles, he entered the military.

A true pioneer in hand surgery, Dr Fowler was in the original group of U.S. Army Medical Corps Hand Surgeons organized by Sterling Bunnell to treat hand casualties at centers of regional specialization during World War II. While in the U.S. Army, Major S.B. Fowler was appointed Assistant Chief of Orthopaedic Surgery and Chief of Surgery of the Hand at Newton D. Baker General Hospital, Martinsburg, West Virginia (1943-1946) and Chief of Orthopaedic Surgery and of Surgery of the Hand at Valley Forge Hospital, Phoenixville, Pennsylvania (1946-1947). While at Valley Forge, he devised a resection arthroplasty method to obtain motion at the metacarpophalangeal joint in cases of ankylosis resulting from direct trauma. The Fowler arthroplasty later gained popularity for the rheumatoid arthritic hand.

In 1945, Dr Fowler participated in the basic planning meeting to formulate the American Society for Surgery of the Hand with four other military surgeons, Drs J.H. Boyes, R.L. Payne, Jr., D.T. Shaw and G. Webster. He became Founding Member and President of the Society (1955). Dr

The only photograph of S Benjamin Fowler that could be found, is of him sitting fourth from the left in this historical photograph

The initial meeting of the American Society for Surgery of the Hand, held at the Blackstone Hotel in Chicago in January 1946 was attended by 26 of the 35 designated founders. A portion of that group is pictured above.

Left to right: Darrel T. Shaw, Joseph H. Boyes, Lot D. Howard, S. Benjamin Fowler, Sterling Bunnell, Arthur Barsky, Donald D. Slocum, Walter C. Graham, J. William Littler, William Metcalf, Richard H. Mellen, Gilbert Hyroop, Donald R. Pratt, William F. Frackelton, Robert L. Payne, Jr.

Not pictured: Harvey S. Allen, Hugh Auchincloss, Julian M. Brunner, Condict W. Cutler, Homer D. Dudley, Alfred W. Farmer, Gerald Gill, Edward Hamlin, Deryl Hart, Sumner L. Koch, William M. Krigsten, Clarence A. Luckey, Henry C. Marble, Michael L. Mason, Joseph I. McDonald, James T. Mills, George S. Phalen, William H. Requarth, Thomas W. Stevenson, George V. Webster

Fowler is also Founding Member of the American Orthopaedic Foot and Ankle Society. He was President of the Clinical Orthopaedic Society (1965-1966), of the American Academy of Orthopaedic Surgeons (1969-1970), of the Nashville Surgical Society and Vice President of the American Board of Orthopaedic Surgery (1962-1963).

Dr Fowler was appointed Associate Editor of the Journal of Bone and Joint Surgery (1957-1960), Chairman of the Section on Orthopaedic Surgery of the Southern Medical Association (1955), Chairman of the Ad Hoc Committee of the Food and Drug Administration to study methyl methacrylate (1971), and a member of the Secretary's Commission on Medical Malpractice (1972).

During his active 39 year career, Dr Fowler practiced orthopaedic surgery at the Baptist Hospital and the Vanderbilt University Hospital in Nashville. He was Medical Director of the Baptist Hospital Rehabilitation Center (1986-1988) and Clinical Professor of Orthopaedic Surgery and Rehabilitation at the Vanderbilt University School of Medicine. He has trained a number of orthopaedic and hand surgeons from several countries in the world, and many of his students have become heads of departments.

J Leonard Goldner, M.D.

A native of Omaha, Nebraska, Dr Goldner received a B.A. Degree from the University of Minnesota in 1939, and B.S. and M.D. Degrees from the University of Nebraska in 1943. He served as a Lieutenant Junior Grade in the U.S. Navy from 1944 to 1946. He was married to Eunice Kensinger, "Ken," on June 3, 1944, and they have two sons, Richard and Steven. Doctor Goldner received his orthopaedic residency training at Duke University Medical Center, Durham, North Carolina, from 1946 to 1950. He has been on the Duke Orthopaedic Surgery staff since that time. In 1955, he was selected by the American Orthopaedic Association as one of the five outstanding orthopaedists in the United States and Canada to tour England and France as an ABC Exchange Fellow.

Dr Goldner served as Chief of the Division of Orthopaedic Surgery at Duke from 1967 through 1984, and was awarded the Distinguished James B. Duke Professorship in 1979. An internationally recognised orthopaedic surgeon, Dr Goldner has dedicated his life to teaching orthopaedic surgery principles. He is especially known for his expertise in the management of cerebral palsy, children's foot deformities, and management of hand, upper extremity, spinal and pain problems. He has had the unique distinction of serving as President of the American Society for Surgery of the Hand (1969) and the American Orthopaedic Foot and Ankle Society (1979).

He has also served as President of the Southern Medical Association and was President of the American Orthopaedic Association in 1988. In 1967, he was awarded the Physician of the Year Award by the Governor of North Carolina. In 1981, Dr Goldner received the Distinguished Civilian Service Award by the Secretary of the Army and was honoured in ceremonies at Fort Bragg, North Carolina. He has been visiting professor and Lecturer at many universities throughout the world, and has over 200 publications to his credit.

Journal Highlights

Below is a selection of contents pages from the latest issues of the following leading hand surgery journals. Hover your mouse over each article heading and click to go to the original abstract page of the article.

Journal of Wrist Surgery **Volume 04 · November 2013**

- Augmented Reality-Based Navigation System for Wrist Arthroscopy: Feasibility
- Computer-Assisted Percutaneous Scaphoid Fixation: Concepts and Evolution
- Accuracy of 3D Virtual Planning of Corrective Osteotomies of the Distal Radius
- Stem Cells and Biological Approaches to Treatment of Wrist Problems
- Objective Outcomes Following Semi-Constrained Total Distal Radioulnar Joint Arthroplasty
- Can Total Wrist Arthroplasty Be an Option in the Treatment of the Severely Destroyed Posttraumatic Wrist?
- Distal Oblique Bundle Reconstruction and Distal Radioulnar Joint Instability
- Perilunate Injuries, Not Dislocated (PLIND)
- Distal Radius Attachments of the Radiocarpal Ligaments: An Anatomical Study
- Pyrocarbon Interposition after Capitate Head Resection
- Arthroscopic Resection of Wrist Ganglion Arising from the Lunotriquetral Joint
- A New Distal Radioulnar Joint Prosthesis

Hand Clinics **Latest issue is: Volume 30 ▪ Issue 1 February 2014**

- Minimally Invasive Anesthesia in Wide Awake Hand Surgery
- Minimally Invasive Finger Fracture Management: Wide-awake Closed Reduction, K-wire Fixation, and Early Protected Movement
- Minimally Invasive Treatment of Raynaud Phenomenon: The Role of Botulinum Type A
- Collagenase Injections for Treatment of Dupuytren Disease
- Needle Aponeurotomy for the Treatment of Dupuytren's Disease
- Percutaneous Release of Trigger Fingers
- Endoscopic Carpal Tunnel Release
- Endoscopic Release of the Cubital Tunnel
- Minimal-Incision In Situ Ulnar Nerve Decompression at the Elbow
- Arthroscopic Excision of Ganglion Cysts
- Minimally Invasive Approaches to Ulnar-Sided Wrist Disorders
- Use of Arthroscopy for the Treatment of Scaphoid Fractures

Hand **Volume 8 – Issue 4, December 2013**

- Indications for microsurgical reconstruction of congenital hand anomalies by toe-to-hand transfers
- Disability and pain after cortisone versus placebo injection for trapeziometacarpal arthrosis and de Quervain syndrome
- Determinants of distal radius fracture management in polytrauma patients
- The use of bone cement in difficult distal radius fractures
- Percutaneous flexible double pinning (Py–Desmanet's procedure) for pediatric distal radius fractures
- Acute hand and wrist injuries sustained during recreational mountain biking: a prospective study
- Treatment of chronic biceps tendon ruptures
- Functional outcome of collagenase injections compared with fasciectomy in treatment of Dupuytren's contracture
- Evaluation of appropriateness of patient transfers for hand and microsurgery to a level I trauma center
- Widespread pressure pain hypersensitivity in elderly subjects with unilateral thumb carpometacarpal osteoarthritis
- Surgeon confidence in an outpatient setting
- Contralateral electrodiagnosis in patients with abnormal median distal sensory latency
- Corticosteroid injection therapy for trigger finger or thumb: a retrospective review of 577 digits
- Percutaneous ultrasound-guided MANOS carpal tunnel release technique
- Chronic exertional compartment syndrome of the forearm in elite rowers: a technique for mini-open fasciotomy and a report of six cases
- Plating of metacarpal fractures with locked or nonlocked screws, a biomechanical study: how many cortices are really necessary?
- Treatment of intraarticular middle phalanx fractures using the Ligamentotaxor®
- Infantile fibrosarcoma misdiagnosed as vascular tumors
- Anomalies of the extensor pollicis longus and extensor indicis muscles in two cadaveric cases
- Diagnosis and treatment of digitocutaneous dysplasia, a rare infantile digital fibromatosis: a case report

Journal of Hand Surgery (European Volume) **Feb 2014 J Hand Surg Eur Vol 39, Issue 2**

- Prevalence of carpal tunnel syndrome and wrist osteoarthritis in long-term paraplegic patients compared with controls
- The DASH and the QuickDASH instruments. Normative values in the general population in Norway
- Comparative responsiveness of the Hand 20 and the DASH-JSSH questionnaires to clinical changes after carpal tunnel release
- Evaluation of female hormone-related symptoms in women undergoing carpal tunnel release
- No correlation between sonographic and electrophysiological parameters in carpal tunnel syndrome
- Ultrasound diagnosis of ulnar neuropathy: Comparison of symptomatic and asymptomatic nerve thickness
- Transfer of the flexor carpi radialis to the abductor pollicis brevis tendon for the restoration of tip-pinch in severe carpal tunnel syndrome
- Evaluation of the scratch collapse test for the diagnosis of carpal tunnel syndrome
- Changes in treatment plan for carpal tunnel syndrome based on electrodiagnostic test results
- Anatomic study of the intercostal nerve transfer to the suprascapular nerve and a case report
- The correlation of neurophysiological findings with clinical and functional status in patients following traumatic nerve injury
- Carpal tunnel syndrome due to palmaris profundus tendon
- Kimura's disease affecting the superficial branch of the radial nerve
- Isolated intraneural schwannoma of the median nerve
- The ulnar nerve consistently drives flexion of the middle finger
- Hereditary Neuropathy with Liability to Pressure Palsy: global neuropathy after tourniquet use
- Exophytic neurofibroma simulating a pyogenic granuloma

Journal of Hand Therapy **Volume 27, Issue 1, January-March 2014**

- Interpreting systematic reviews: Looking beyond the all too familiar conclusion
- Mechanosensitivity in the upper extremity following breast cancer treatment
- Clinical commentary in response to: Mechanosensitivity in the upper extremity following Breast Cancer treatment
- Current practice patterns in conservative thumb CMC joint care: Survey results
- The inclusion of activities of daily living in flexor tendon rehabilitation: A survey
- Developing hand therapy skills in Bangladesh: Experiences of Australian volunteers
- The incidence of idiopathic musculoskeletal pain in children with upper extremity injuries
- Acetic acid iontophoresis for recalcitrant scarring in post-operative hand patients
- The cross-cultural adaptation of the DASH questionnaire in Thai (DASH-TH)
- A systematic review of prognostic factors for return to work following work-related traumatic hand injury
- A dowel exercise tool to improve finger range of motion
- Sleight of hand: Magic, therapy and motor performance

Journal of Hand Surgery: American volume

Volume 39, Issue 1, Pages A1-A28, 1285-1468 (January 2014)

- One-per-Mil Tumescent Technique for Upper Extremity Surgeries: Broadening the Indication
- Stability of Acute Dorsal Fracture Dislocations of the Proximal Interphalangeal Joint: A Biomechanical Study
- Tenodesis for Restoration of Distal Interphalangeal Joint Flexion in Unrepairable Flexor Digitorum Profundus Injuries
- Arthrodesis of the Thumb Interphalangeal Joint and Finger Distal Interphalangeal Joints With a Headless Compression Screw
- Onycho-Osteo-Cutaneous Defects of the Thumb Reconstructed by Partial Hallux Transfer
- Corticosteroid Injection With or Without Thumb Spica Cast for de Quervain Tenosynovitis
- Preoperative Donor Nerve Electromyography as a Predictor of Nerve Transfer Outcomes
- Nerve Transfers From Branches to the Flexor Carpi Radialis and Pronator Teres to Reconstruct the Radial Nerve
- Efficacy and Safety of Concurrent Collagenase Clostridium Histolyticum Injections for Multiple Dupuytren Contractures
- Reconstruction of the Tendon–Bone Insertion With Decellularized Tendon–Bone Composite Grafts: Comparison With Conventional Repair
- Flexor Pollicis Longus Rebalancing: A Modified Technique for Wassel IV-D Thumb Duplication
- Isolated Ring–Little Finger Metacarpal Synostosis: A New Classification System and Treatment Strategy
- The Quality of Upper Extremity Orthopedic Care in Liability Claims Filed and Claims Paid
- Performance Characteristics of the Verbal QuickDASH
- The Efficiency of a Dedicated Staff on Operating Room Turnover Time in Hand Surgery
- National Healthcare Initiatives and Pursuit of Wrist Surgery Innovations: A Report of the 2011–2012 Sterling Bunnell Traveling Fellow
- The Hand in Art: Hands of Shimla, Himachal Pradesh, India
- First Hand: Harold E. Kleinert, MD: A Tribute and Personal Reflections
- Hand Made: The Touch
- How to Establish an Interactive eConference and eJournal Club
- Forearm Transplantation Osteosynthesis Using Modified Ulnar Shortening Osteotomy Technique
- A Biomechanical and Evolutionary Perspective on the Function of the Lumbrical Muscle
- Medical Malpractice in Hand Surgery

Upcoming events

7th International Poznan Course in Shoulder, Elbow and Hand Surgery

6-8 March 2014
Poznan, Poland
www.artro.pl

Lectures and workshops will be conducted by eminent foreign and Polish specialists. Patronage of the course was taken by Polish and European scientific associations. The course covers various issues relating to the entire upper limb. As in previous years, we also organise cadaver courses, requiring separate registration. We will also exchange experiences with radiologists and physiotherapists.

ASSH 2014 Self-Assessment Examination

Registration deadline 2 April 2014
Exam deadline: 15 June 2014
www.assh.org/Professionals/Education/Pages/SAE.aspx

The American Society for Surgery of the Hand offers this annual exam to hand and upper extremity care professionals as a comprehensive review tool of basic principles and can also be used by practicing clinicians to stay abreast of new developments and concepts within the specialty. The examination covers diagnostic and therapeutic problems, both surgical and non-operative, basic science knowledge, and fundamental principles of hand surgery. The interpretation of the illustrative material (clinical photographs and radiographs) is an integral part of this examination.

In compliance with AMA policy, a minimum passing score of 50% is required for this exam. Only participants who meet the minimum passing score will receive CME credit for taking the examination. General surgeons need to achieve a minimum passing score of 75% to receive credit through ABS.

25th Scandinavian Hand Society Meeting

14-16 May 2014
Bergen, Norway
www.ksci.no

The topics for the 25th Scandinavian Hand Society Meeting have been selected in order to guarantee interesting and stimulating learning and discussions encompassing hand surgery and hand therapy. The Congress will have a wide focus on finger and distal radius fractures and sequelas after those fractures. The program will be comprised by a mix of high level presentations from invited guest speakers, smaller workshop session for immersion in everyday clinical issues and oral and poster presentations of original research.

It is an honour to have Toshiyasu Nakamura, from Tokyo, as the Moberg Speaker, speaking on the DRUJ problems. The Organizing Committee will make every effort to ensure, that this meeting will be successful and fruitful in all aspects from the scientific to the social programme. Furthermore an industrial exhibition will provide you with the newest information on products for hand surgery and orthopaedic devices as well as products for hand therapy.

European Voice of Plastic Surgery (ESPRAS)

6-11 July 2014
Edinburgh, Scotland
www.espras2014.org

ESPRAS 2014 will offer delegates the opportunity to experience a truly multi-disciplinary, multi-national and multi-cultural programme with world leading experts across the entire spectrum of disciplines associated with Plastic, Reconstructive and Aesthetic surgery.

6th European Plastic Surgery Research Council (EPSRC) 2014

21 – 24 August 2014
Hamburg, Germany
www.epsrc.eu

The EPSRC is a non-profit organisation managed by and for the benefit of the young plastic, reconstructive and aesthetic surgery research community. We are kindly requesting that all European national societies announce our next meeting aimed at young plastic surgery researchers. It will offer an exciting opportunity for young plastic surgery researchers to discuss their latest work and future challenges in a uniquely informal, interactive format for basic science and clinical outcome research. The EPSRC meeting will provide a valuable means of disseminating information and ideas in a way that cannot be achieved through the usual channels of communication - publications and presentations at large scientific meetings. The conference official language is English.

Second International Symposium on Arthrogryposis

17-18 September 2014
St Petersburg, Russia
http://amc-2014.org/

We have pleasure in inviting you to join us to the SECOND INTERNATIONAL SYMPOSIUM ON ARTHROGRYPOSIS «UPDATES FROM AROUND THE WORLD» which will be held in Saint-Petersburg, Russia on 17th and 18th September 2014. The faculty will consist of senior clinicians from all over the world with particular expertise in the management of all aspects of the care of children and adults with Arthrogryposis including, geneticists, neuromuscular paediatricians, surgeons and rehabilitation experts. This is a unique opportunity to discuss the difficulties of managing this complex condition. One of the world's most beautiful cities, St Petersburg has all the ingredients for an unforgettable travel experience. The city offers an extraordinary history and rich cultural traditions, which have inspired and nurtured some of the modern world's greatest literature, music, and visual art. From the mysterious twilight of the White Nights to world-beating opera and ballet productions on magical winter evenings, St Petersburg charms and entices in every season

10th World Symposium on

Congenital Malformations of the Hand and Upper Limb

7-9 May 2015 Rotterdam, The Netherlands

www.worldcongenitalhand2015.com

10th Congress of the Asian Pacific Federation of Societies for Surgery of the Hand

2-4 October 2014

Kuala Lumpur, Malaysia

www.apfssh2014.org

The Malaysian Society for Surgery of the Hand (MSSH) is pleased to invite you to the 10th Congress of the Asia Paci¬fic Federation of Societies for Surgery of the Hand (10th APFSSH) and 6th Congress of the Asia Paci¬fic Federation of Societies for Hand Therapists (APFSHT) which will be held from 2nd - 4th October 2014 at Hilton Kuala Lumpur Hotel, Kuala Lumpur, Malaysia. To make it more exciting and well worth your while, ISSPORTH and IBRA are also joining in the academic activities! The conference programme includes:

- Cadaveric Pre-Congress Workshops
- 18 Industry Forms
- Five concurrent sessions with 99 symposia and 12 plenaries
- ISSPORTH - International Society for Sport Traumatology of the Hand Meeting
- Exhibition booth showcase
- Digital interface showcase
- International Bone Research Association (IBRA) meeting

10th World Symposium on Congenital Malformations of the Hand and Upper Limb

7-9 May 2015

Rotterdam, The Netherlands

www.worldcongenitalhand2015.com

The 10th World Symposium on Congenital Malformations of the Hand and Upper Limb will be held on the 7th-9th May 2015, in Rotterdam, The Netherlands. A broad variation of congenital hand anomalies, genetics, embryology and classification will be presented, discussed and shared. Invited lectures, discussion, free paper sessions and panel sessions will inform you of the latest on congenital hand anomalies. Some of the keynote speakers are Michael Tonkin, Caroline Leclercq and Ann van Heest. The symposium will be preceded by a cerebral palsy pre course on Wednesday the 6th of May. For more information on the program and registration go to: www.worldcongenitalhand2015.com

NEXT IFSSH & IFSHT

NEW DATES
24-26 October
2016

~~October 09-13, 2016~~

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www.ifssh-ifsht2016.com

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INTERNATIONAL FEDERATION OF SOCIETIES FOR SURGERY OF THE HAND