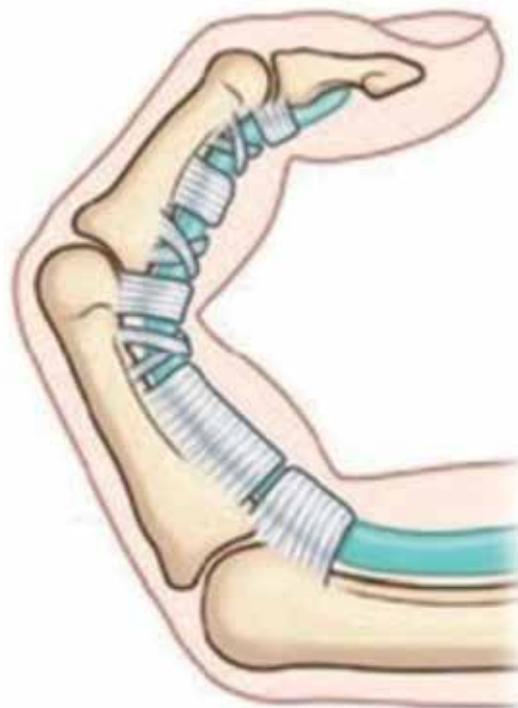
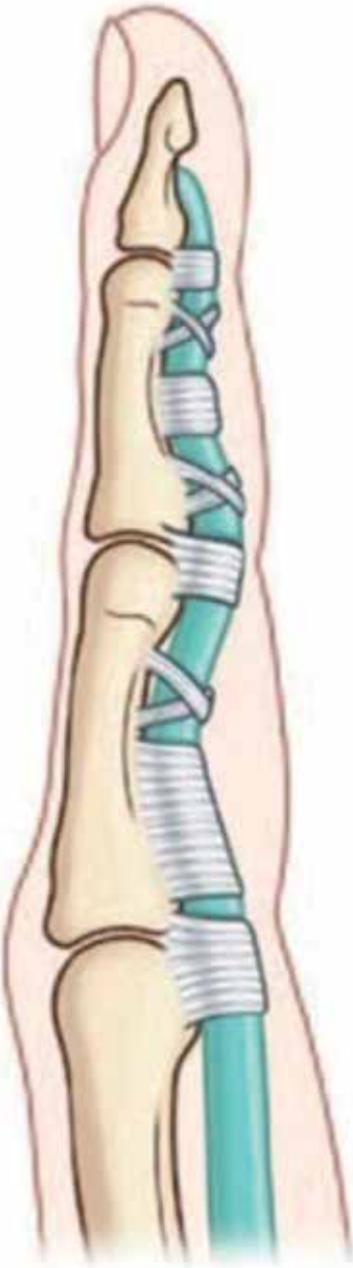


Rehabilitation after flexor tendon repair





6-10 JUNE 2022

LONDON
2022

THE INTERNATIONAL FEDERATION OF SOCIETIES FOR SURGERY OF THE HAND
THE INTERNATIONAL FEDERATION OF SOCIETIES FOR HAND THERAPY

COMBINED XXVII FESSH CONGRESS

6 - 10 June 2022
ExCeL Conference Centre, London, UK



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Update from IFSSH/IFSHT London Congress Organisers

“The New Norm”

The world has experienced an unprecedented pandemic for over two years now.

Isolation, quarantine and mandatory lockdowns have been the order of the day, resulting in countless destroyed livelihoods in addition to the millions of deaths caused by the virus itself. Many of those who survived infection with SARS-CoV-2 will unfortunately continue to live with clinical after effects, or so-called long-COVID.

About 10 billion people have by now been vaccinated globally. Overwhelming statistical evidence indicates that these scientifically approved vaccines are safe and effective. Not only is transmissibility of the virus markedly reduced in vaccinated people, but vaccination prevents serious illness or death in almost all cases.

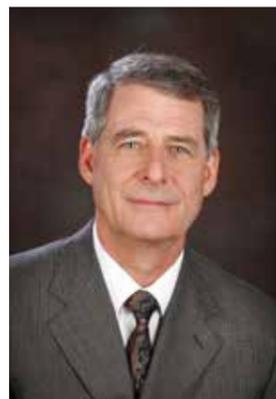
Unfortunately many people are still unconvinced by these remarkable scientific achievements and remain vaccine hesitant, clinging to conspiracy theories, irrational beliefs and or being stubbornly selfish. It is this unvaccinated group who presently fill hospital beds, placing immense strain on medical resources and often dying, causing an “epidemic of the unvaccinated”. Furthermore, this unvaccinated pool is a fertile breeding ground for new variants.

The WHO’s International Health Regulations have been accepted by 196 signatory countries. The purpose of these regulations is that in case of a global threat such as a pandemic, regional politics and restrictive legislation should make way for global mandatory measures to protect not only the individual but also ‘the other’. It is important to note that the exceptionally transmissible Delta variant has now been replaced by the even more transmissible Omicron variant.

Herd immunity is unfortunately not as effective with this virus as with many other viral infections. We therefore need to continue to wear masks, refrain from congregating in enclosed spaces and maintain social distancing to reduce transmission. These simple, practical and cost effective measurements work!

After two years of countries making their own politically-driven decisions, many institutions, organisations and countries have at last come to their senses to introduce mandatory vaccination, and to sideline those who remain hesitant to vaccinate by excluding them from public spaces, events and travel. This will allow the vaccinated, who care about the general wellbeing of not only themselves but of others as well, to move back to some semblance of normality.

The last two years have seen many innovative ways of sharing academic information, such as various forms of online meetings and webinars, giving many of us from faraway places exposure to high quality education and teaching. But it has also become apparent that personal contact and in-person meetings remain very important for a number of reasons. The ‘new norm’ therefore seems to be blending the best of both worlds, comprising a mixture of virtual and in-person interactions. In order for this to happen, let us all do the right thing.



Hope to see you all safe and sound in London in June for the next IFSSH Congress!

Take care,

Ulrich Mennen
Editor



*With thanks for your unwavering
dedication and support*

The Executive Committee of the International Federation of Societies for Surgery of the Hand (IFSSH) recognises the many challenges posed to our societies and their members throughout 2021. We extend our thanks to the IFSSH Delegates and all involved in the societies for the willingness to further hand surgery practices, education and collegiality throughout the year.

We wish all hand surgeons throughout the world all the very best for 2022 and hope to see you in London for the 15th IFSSH Congress.

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Daniel Nagle, President Elect
Zsolt Szabo, Immediate Past President
Raja Sabapathy, Secretary-General
David Warwick, Historian
Jin Bo Tang, Member at Large
Belinda Smith, Administrative Secretary

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CONNECTING OUR GLOBAL HAND SURGERY FAMILY

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Opening up to the world: An inescapable necessity (*)

"Isn't that non-sense? What could Americans teach you that couldn't be learned here in our Country?" I don't know if these were the exact words, but most likely it was that kind of mocking commentary that Jaime Planas had to endure when, in 1947, he decided to apply for a visa to the United States to expand his knowledge as a plastic surgeon.

It certainly was not easy at a time when the international blockade was staining university environments with radical xenophobia. But Jaime was always a free-thinker. Shortly after defending his doctoral thesis on "Amputations in Emergency Surgery", he received the letter he was waiting for: the Los Angeles Master's Foundation had just awarded him a scholarship for a 12-month stay in the United States. The goal was to learn new surgical techniques to reconstruct traumatized hands.

For many, California was nothing more than the setting for John Ford's "Fort Apache." But for the young doctor it was the place where Sterling Bunnell and his team were laying the foundation for modern hand surgery. He was 32 years old, single and without commitments. Overcoming all kinds of difficulties, and after visiting various hospitals in Chicago, Saint Louis, New Orleans, and Los Angeles, he was finally admitted as a visiting fellow at Saint Francis Memorial Hospital in San Francisco. He knew that working there was a unique opportunity, and he made the most of it. The enthusiasm, generosity and work capacity of that young man could not remain long unnoticed by

Dr. Bunnell who then asked him to take charge of the Spanish translation of the second edition of his book "Surgery of the Hand"

By 1951 this translated book was already in all the specialized Iberoamerican bookstores. Who gets the credit? Was it the Jaime Del Amo Foundation who paid for his stay? Or Bunnell who believed in him? Or was it the broad-mindedness of that young doctor? All of them contributed. But the important thing is that, by opening himself unapologetically to the world, Jaime Planas succeeded in bringing modern hand surgery into most Spanish hospitals. That book was, without a doubt, one of the best gifts that could have been made to Spanish-speaking surgeons. In 1969 SECMA (Spanish Society for Surgery of the Hand) was founded. Enthusiasm, generosity and hard work; these are the key words of this story.

This is not the only story I have to justify why it is so important to open up to the world. Hand surgery in Spain was fortunate to have many other pioneers (Cañadell, Quintana, Lluch) who never gave up, but insisted in going out and see what was happening outside our borders.

Fortunately, it is no longer necessary to encourage our young residents to complete their studies abroad. In Spain you may get access to excellent training in hand surgery, without having to leave the country.

Does this mean that we can now do without what happens beyond our borders? Can we ignore to collaborate with international institutions and participate in events? The answer is a categorical "no"!

Why? First of all, because we are grateful. At first, in the 1940s and 1950s, we were net debtors in our relationship to those who developed modern hand surgery. We are now net contributors. If we've grown enough for some to find within our borders what California was once for Dr. Planas, we have an obligation to accept that challenge. As the saying goes: "it is unkind not to be grateful." The best way to thank those who helped us to grow individually and collectively, is to collaborate with the same enthusiasm, generosity and work ethic so that those countries which are less favoured and with fewer resources can access what we can offer.

Second, we must collaborate because it is in our own interest to do so. If a Federation of Societies for Surgery of the Hand asks you to collaborate, and you respond with enthusiasm, generosity and dedication, you will of course also have to accept new responsibilities. This includes to be open to dialogue, contribute constructively and compromise if need be. It is therefore essential for us to collaborate, for our own interest. Without this spirit, Spain would never have been able to have several members in the world hand surgery leadership.

Third, because it is interesting. Collaborating with foreign colleagues who are bound by a common goal is always instructive, and can even be exciting. It gives you the opportunity to travel to unexpected places, to learn about other traditions, to enjoy the benefits of the many friendships that you would not otherwise have had.

In short, I use Spain merely as an example. To open up to the world is an inescapable necessity, as well as interesting and profitable for you, your country and for others. Don't leave it for tomorrow.



Marc Garcia-Elias
Barcelona, Spain
President of the IFSSH

(*) adapted from "Garcia-Elias: Abrirse al mundo: una necesidad ineludible". DOI: 10.1016/j.ricma.2016.08.002. Open Access

Message from the Secretary-General:



Dear Colleagues,

On behalf of the Executive Committee of our Federation, I wish all of you and your families a very Happy and Healthy 2022. It is said that the pandemic has changed the way people look at things. Surprisingly, many things which we valued have not changed. In fact they have become more relevant and important than ever before. One such is our wish to have in person meetings. We have come to realise even though knowledge can be shared in better ways now using technology, nothing can compensate the fellowships we enjoyed and the moments shared when we met at the IFSSH Congresses. Hopefully we will all be able to meet in June in London.

Before that we do have quite a lot of business to accomplish. They are consistent with our goals to make the IFSSH more valuable and relevant to all the stakeholders. The ExCo members have also been working constantly in that direction. You will find a lot of deadlines, updates and new schemes in this newsletter. While the newsletter gives you a snapshot of the various events, policies, and procedures I would urge you to use the links given to have the full details of the issue in question.

2022 IFSSH Delegates' Council Meeting

The 2022 IFSSH Delegates' Council meeting will be held on Wednesday 8 June 2022. This will take place in London, in conjunction with the triennial IFSSH Congress.

We look forward to welcoming the delegates from all IFSSH member nations and discussing the activities and plans of our Federation.

We ask that all Societies check the IFSSH Member Nations page (https://ifssh.info/member_nation.php) and ensure their delegate details are current and correct. Please note that the 2022 IFSSH Delegates' Council Meeting will include a number of items to be decided by vote and Societies must be in good financial standing to participate in these matters. Please contact the secretariat (administration@ifssh.info) with alterations and questions.

2022 Elections: Executive Committee and Nominating Committee members

At the 2022 Congress, the IFSSH Delegates' Council will elect the following officers to join the IFSSH Executive Committee:

- the incoming Secretary-General;
- a Communications Director; and
- 5 ExCo Members-at Large (regional representation)

In addition, outside of the Executive Committee, but to specifically be a part of the Nominating Committee only:

- 2 Nominating Committee Members-at-Large
- The full position descriptions and application processes for these positions have been distributed to all Society Delegates. These are also listed on the IFSSH website <https://ifssh.info/2022-elections.php>. All Societies should consider the essential and desirable qualities for the positions when considering nominations.

Nominations may now be submitted. Applications must be received by the secretariat (administration@ifssh.info) by **6 February, 2022**.

2022 IFSSH Congress: Bidding Societies

Under the revised congress host guidelines, Societies wishing to host the 2028 IFSSH Congress (to be held in the Asian-Pacific region) were required to register their intent to bid by 6 December. We are pleased to announce that the following three Societies will bid to host this Congress:

- Association of Chinese-speaking Hand Surgeons United
- Japanese Society for Surgery of the Hand
- Singapore Society for Hand Surgery

These Societies will now prepare their proposals and must forward their full bid documents to each IFSSH Delegate by **6 March, 2022**. Voting will occur at the 2022 IFSSH Delegates' Council Meeting.

IFSSH Mid-Term Course in Hand Surgery

The IFSSH Executive has approved a new initiative to promote the sharing of knowledge: the IFSSH Mid-Term Course in Hand Surgery. Over a period of 3 days (minimum), hand surgery topics of interest will be discussed from basic principles to the recent trends. We now invite applications from IFSSH Member Societies to host the course.

The Mid-Term Course encourages further geographical representation by restricting applications to those regions not hosting the preceding or subsequent IFSSH triennial Congress. With the 2022 Congress being held in London and the 2025 Congress in Washington, D.C., we invite applications from the **South American** and **Asian-Pacific** IFSSH Societies.

The course is to be held at the mid-way time point between triennial congresses. The host society will be selected at the 2022 London Congress, with the Mid-Term Course to be held in late 2023/early 2024.

Applications are to be submitted by **6 March, 2022**. The guidelines are available on the IFSSH website: <https://ifssh.info/mid-term-course.php>, and also appear in this Ezine issue under 'IFSSH Sponsorships'. (see p52-54)

IFSSH Triennial Congress - London: 6-10 June, 2022

For the 2022 IFSSH Congress, in addition to the regular travel/registration grants provided, the congress organizers have added a component that will provide travelling fellows with visits to the busy hand units of the UK. The London Congress organizers have notified the travel grants to 34 young surgeons.

The Nominating Committee of the IFSSH has also confirmed the choice of 28 senior surgeons who will be recognized as IFSSH Pioneers of Hand Surgery within the London Congress. The award ceremony during the welcome reception will be a grand event.

Future Meetings

A detailed list of national and regional hand surgery meetings is available on the IFSSH website. The triennial IFSSH Congresses are as follows:

XVth IFSSH – XIIth IFSHT Congress
London, United Kingdom
6 - 10 June, 2022
www.ifssh-ifsht2022.com

XVIth IFSSH – XIIIth IFSHT Congress
Washington D.C., USA
29 March - 3 April, 2025

With very best wishes



S. Raja Sabapathy

Secretary-General, IFSSH
Email: secretary@ifssh.info

Re-prints from Scientific Journals



**A STANDARD SET FOR OUTCOME MEASUREMENT IN PATIENTS WITH
HAND AND WRIST CONDITIONS. J HAND SURGERY (AMERICAN)
VOLUME 46 ISSUE 10 P841-855 E7 OCTOBER 01,2021**

EDITOR'S CHOICE

A Standard Set for Outcome Measurement in Patients With Hand and Wrist Conditions: Consensus by the International Consortium for Health Outcomes Measurement Hand and Wrist Working Group

Robbert M. Wouters, PhD,* Adedayo O. Jobi-Odeneye, MSc,† Alethse de la Torre, MD, PhD,‡
Andria Joseph, MSc,† the ICHOM Hand and Wrist Working Group, Steven E. R. Hovius, MD, PhD‡

Purpose To describe the principles, process, and results of creating the International Consortium for Health Outcomes Measurement (ICHOM) standard set for hand and wrist conditions.

Methods Following the standardized methods of ICHOM, an international working group of hand surgeons, therapists, and researchers was assembled to develop an evidence-based, patient-centered, standard set of outcome measures for patients with hand and wrist conditions. Multiple systematic reviews were performed to support our choices of outcome domains and tools for hand and wrist conditions. Fourteen video conferences were held between March 2018 and March 2020, and a modified Delphi process was used.

Results A consensus was reached on 5 measurement tracks: the thumb, finger, wrist, nerve, and severe hand trauma tracks, with a distinction between regular and extended tracks for which specific allocation criteria applied. The standard set contains a selection of outcome tools and predefined time points for outcome measurement. Additionally, we developed a hierarchy for using the tracks when there are multiple conditions, and we selected risk-adjustment, case-mix variables.

Conclusions The global implementation of the ICHOM standard set for hand and wrist conditions may facilitate value-based health care for patients with hand and wrist conditions.

Clinical relevance The ICHOM standard set for hand and wrist conditions can enable clinical decision making, quality improvement, and comparisons between treatments and health care professionals. (*J Hand Surg Am.* 2021;46(10):841–855. Copyright © 2021 by the American Society for Surgery of the Hand. Published by Elsevier Inc. This is an open access article under the CC BY license (<http://creativecommons.org/licenses/by/4.0/>).

Key words Consensus, hand, ICHOM, outcome assessment (health care), value-based health care, wrist.



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No benefits in any form have been received or will be received related directly or indirectly to the subject of this article.

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THE PREVALENCE OF HAND AND wrist conditions is high and likely to increase because of the aging population.¹⁻⁴ In a Dutch population-based study investigating health care and productivity costs, hand and wrist conditions ranked first in the order of the most expensive injury types, annually accounting for \$740 million, followed by above-knee and lower-extremity fractures (\$562 million), hip fractures (\$532 million), and skull-brain injuries (\$355 million).⁵ Furthermore, hand and wrist injuries account for between 7% and 29% of all visits to emergency departments in the United States, the Netherlands, and Denmark, resulting in a high cost to the society.⁶⁻¹¹

The value-based health care (VBHC) framework developed by Porter¹² as well as Porter and Teisberg¹³ has been recognized to improve the quality of care and reduce costs. In VBHC, the value is defined as the outcomes achieved divided by the costs. A key aspect of VBHC is measuring outcomes, preferably using a condition-based “standard set” of outcome measures. A standard set recommends the use of specific outcome tools (defined as outcome measures or instruments) to measure essential outcome domains and includes predetermined time points for outcome measurement. These standard sets also include risk-adjustment, case-mix variables (eg, baseline demographics or variables describing health status). Furthermore, a standard set should apply to all types of treatment (ie, surgical or nonsurgical) and should be administered by all health care professionals (eg, hand surgeons, hand therapists, rheumatologists, etc) treating the target population, in this instance, adult patients with hand and wrist conditions. Using a standard set enables valid comparisons of outcomes across different treatments or treatment centers regionally or globally.^{12,13} Additionally, it facilitates shared decision-making and benchmarking across organizations, thereby improving the quality of health care.^{12,13} To implement VBHC, government organizations are endorsing the standard sets developed by the International Consortium for Health Outcome Measurement (ICHOM), which is a nonprofit organization.¹⁴⁻¹⁶ The ICHOM standard sets were developed by a group of experts and patient representatives of the field, using the same standardized methods for every condition, focusing on what matters most to patients.

Although some consensus-based standard sets or large cohort registries using standardized outcome measurement systems exist in hand and wrist care, there is currently no internationally adopted system for measuring the outcomes of hand and wrist care in

a standardized manner.¹⁷⁻²² It remains difficult to compare outcomes across different treatments and treatment centers, both in daily clinical practice and research.^{12,13} Therefore, an international, minimum standard set of outcome measures that are the most important to patients with hand and wrist conditions was developed by the ICHOM Hand and Wrist Working Group. Because we included all adult hand and wrist conditions and usually only 1 condition is included in ICHOM standard sets, an innovative approach to creating the hand and wrist conditions standard set was needed. In this article, we described the ICHOM hand and wrist standard set, including the following: (1) the scope of, and approach to, developing the hand and wrist standard set, (2) the creation of measurement tracks, (3) the identification of outcome domains and tools through systematic reviews, (4) prioritizing and defining outcome domains that capture the patient’s perspective, (5) selecting outcome tools, (6) determining standardized time points for outcome measurement, (7) establishing a flowchart and track hierarchy when there are multiple conditions, (8) selecting risk-adjustment, case-mix variables, and (9) a professional open review of the standard set.

MATERIALS AND METHODS

Working group composition

An international working group was assembled—including plastic and orthopedic hand surgeons, physical and occupational hand therapists, as well as researchers—comprising 22 experts on hand and wrist conditions representing 11 countries and 4 continents. The aims of this working group were as follows: (1) to review the existing literature and practices for assessing the outcomes of treatment for hand and wrist conditions and (2) to create a standard set of measurements for evaluating hand and wrist conditions, with feasible recommendations that can be reliably implemented globally by health care providers. The selection of the working group members was based on demonstrable expertise in hand and wrist care, with the final selection aiming at capturing different geographical regions and focus areas. The efforts of the working group were guided and facilitated by a core project team (R.M.W., A.O.J.-O., A.D.T., A.J., and S.E.R.H.).

Working group process

To retain the VBHC framework and facilitate a structured process throughout the project, ICHOM standard sets are developed using the following

framing principles: (1) outcomes are defined around the medical condition, not the specialty or a procedure, (2) the standard set is a minimum set focused on outcomes that matter most to patients, (3) patients are directly involved in defining the standard set, (4) patient-reported outcome measures (PROMs) are included in every standard set to capture symptom burden, functional status, and health-related quality of life, (5) a minimum set of case-mix variables is included to facilitate meaningful comparisons, and (6) the time points and sources of data collection are clearly defined to ensure the comparability of results.

Between March 2018 and March 2020, 14 video conferences with the entire working group were scheduled. Additional break-out sessions were scheduled with a small group of representatives of the working group to generate a list of items for discussion with the entire working group. The meeting goals were to establish the scope, methods, and content of the ICHOM hand and wrist standard set, for which a 3-round structured modified Delphi process, similar to that used for previous ICHOM working groups, was followed (Fig. E1, available online on the *Journal’s* website at www.jhandsurg.org).²³⁻²⁵ This Delphi process involved a structured method to achieve a consensus using a series of voting rounds to gather anonymous inputs on particular topics, with an 80% response rate as a threshold to ensure the validity of all votes.²⁶

Prior to each video conference, the project team prepared and distributed a slide deck with a summary of relevant evidence from the literature and initial proposals that were shared with the working group. During these video conferences, the proposals were discussed and inputs from the working group were gathered. Following each video conference, online surveys were administered to obtain anonymous votes from the working group members, with 80% agreement as the consensus threshold. If a consensus was not reached on an item during the first voting round, this item was rediscussed during the next video conference, and a second voting round took place using the same method. If no consensus was reached after 3 rounds, the working group chair (S.E.R.H.) made the final decision. This happened once while choosing the measurement tool for thumb carpometacarpal palmar abduction.²⁷

The creation of measurement tracks

Prior to identifying the outcome domains and tools, the working group faced the challenge of including all adult hand and wrist conditions (except the excluded conditions, Fig. 1) because

hand and wrist conditions comprise both traumatic and nontraumatic conditions as well as multiple anatomic regions and structures. We chose to include all adult hand and wrist conditions because creating separate standard sets for every hand or wrist condition would have required a large investment of time and money and would have resulted in multiple, overlapping standard sets that would have likely confused users. Thus, the working group reached a consensus on clustering conditions into several measurement tracks, in which multiple conditions were evaluated in the same manner, using the same outcome tools and time points. Examples of the successful use of such clustering methods exist.^{21,22} Conditions for which the same relevant outcome measures applied were clustered within the same track. For example, in thumb conditions, the working group agreed that the same outcome measures and time points were relevant for patients with thumb base osteoarthritis and those with ulnar collateral ligament injury of the thumb metacarpophalangeal joint. This principle led to the development of 5 tracks within the hand and wrist standard set: (1) the thumb track (includes thenar/entire ray), (2) the finger track (includes entire ray), (3) the wrist track, (4) the nerve track, and (5) the severe trauma track (Fig. 2).

Because some conditions require a large number of measurements and longer follow-up than other conditions, the working group agreed to include regular and extended forms of each track (except for the severe trauma track). A regular track comprises only basic measurements and time points for shorter follow-up, whereas an extended track includes more comprehensive measurements and time points for longer follow-up. For each track, predetermined time points for outcome measurement were established following the consensus, aiming to choose time points that maximally aligned with routine follow-up. In addition, the working group reached a consensus on track-specific criteria for the allocation of conditions to the regular or extended track, which were based on the probability of changes in health status occurring over a period longer than 6 months (regular track final time point) due to either the pathophysiology of the condition or an expected treatment effect (see Table 1 for an example of the thumb track). For allocation to the severe trauma track, a threshold of a modified hand injury scoring system score of ≥ 50 and the presence of ≥ 3 damaged structures was defined.^{28,29} The modified hand injury scoring system is a validated scoring tool to quantify hand, wrist, and

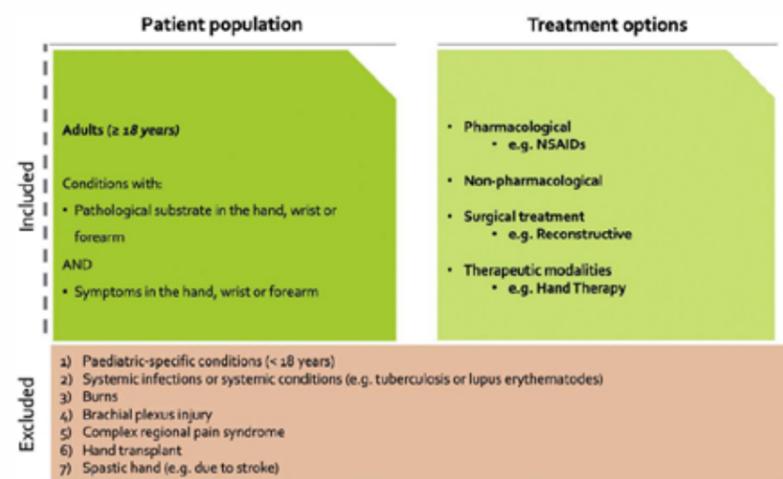


FIGURE 1: Scope of the hand-wrist standard set. Conditions were excluded if there already was an ICHOM standard set or if the condition required a specific outcome evaluation that would make it unfeasible to be included in the hand-wrist standard set. For example, these may have other relevant outcome domains, outcome tools, or follow-up algorithms.

forearm injuries, wherein scores <20 represent minor, 21–50 represent moderate, 51–100 represent severe, and >101 represent major injuries.^{28,29}

Outcome domains

Systematic reviews of the literature were performed to identify all possible relevant outcome domains for patients with hand and wrist conditions as per the Preferred Reporting Items for Systematic Reviews and Meta-Analyses statement.³⁰ The Medical Literature Analysis and Retrieval System Online (MEDLINE) (PubMed) database was searched for relevant articles using 2 search strategies: (1) the track name (eg, “thumb”) or specific conditions for the particular track (eg, thumb carpometacarpal osteoarthritis), combined with outcome or assessment terms and (2) the track name (eg, “thumb”) or specific conditions for the particular track (eg, thumb carpometacarpal osteoarthritis) and randomized controlled trials. These search strategies were repeated for each track. The search strings for the thumb track are presented in Appendix E1 (available online on the *Journal’s* website at www.jhandsurg.org). Articles were included if they described outcome domains, were published within the last 10 years, were written in English, and concerned adult patients with thumb conditions. Two independent reviewers (R.M.W. and A.O.J.-O.) identified and extracted all outcome domains. Disagreements in the extraction of these outcome domains were resolved in a consensus meeting. In

addition to the systematic reviews, manual reference searches were performed, and outcome domains were identified based on expert opinion (discussion among the working group).

Following the modified Delphi process, the selection of outcome domains by the working group was guided by the VBHC framework, and the importance of each outcome domain was ranked on a 9-point Likert scale.¹² Subsequently, the outcome domains were classified as “essential” (ranked 7–9 by at least 80% of respondents), “nice to have” (ranked 4–6 or any range without 80% agreement), or “not recommended” (ranked 1–3 by at least 80% of respondents). The project team proposed definitions for each outcome domain using, when available, definitions recommended by the International Classification of Functioning, Disability and Health; Medical Subject Headings; professional organizations, such as the International Association for the Study of Pain; or other sources.^{31–36}

Patient input on outcome domain selection

To capture patients’ perception, a total of 1,060 patients with hand and wrist conditions were recruited at various treatment centers for hand surgery and hand therapy in the Netherlands and the United States following local approval by a medical ethical review committee. Informed consent was obtained. For each measurement track, a separate survey was created, and only patients fitting in this track were invited to

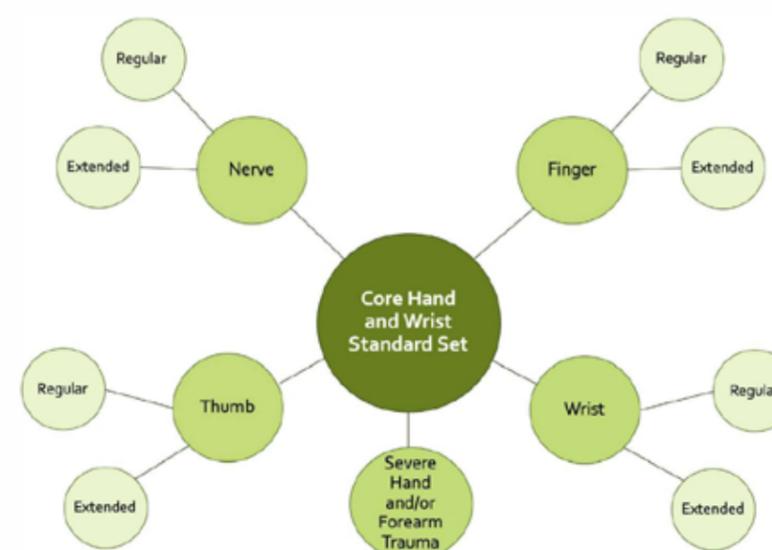


FIGURE 2: Overview of the tracks within the hand-wrist standard set. Except for the severe injury track, each track includes a regular and extended track. The regular track comprises fewer measurements and short follow-up, whereas the extended track comprises more measurements and longer follow-up.

TABLE 1. Criteria for the Allocation of Conditions to the Extended or Regular Thumb Track Based on the Probability of Changes in Health Status >6 months (Regular Track Final Time Point) due to Either the Pathophysiology of the Condition or an Expected Treatment Effect

Thumb—Regular	Thumb—Extended
Conditions in which short-term follow-up is clinically required, using basic outcome measures: <ul style="list-style-type: none"> Simple fracture Trigger digit, other tenosynovitis/teno-synovitis Simple lacerations, thumb tip injury only involving the skin Simple lesions (eg, skin, ganglion, mucous cyst, nail bed) Symptomatic/irritating foreign material Simple/superficial infection 	Conditions in which long-term follow-up is clinically required, using comprehensive outcome measures: <ul style="list-style-type: none"> Cut/lacerated or fractured structures Lesion of tendon, ligament, or complex fracture of the bone Bone malunion/nonunion Amputation Joint disorders: <ul style="list-style-type: none"> Osteo-, mono-, or rheumatoid arthritis Joint laxity/instability Joint contractures Other: <ul style="list-style-type: none"> Adhesions Dupuytren surgery Severe/deep infection (eg, paronychia)

participate. No additional inclusion criteria were applied. These patients reviewed the identified list of outcome domains by completing an anonymous survey, which was administered to the patients online by the working group members, via ICHOM social media, and at Xpert Clinics using their routine outcome measurement system.²² Again, the importance of each domain was ranked on a 9-point Likert

scale, and the outcome domains were considered essential to patients when they were given a score of 7–9 by >80% of the respondents. It was also evaluated if the list captured the most important outcome domains, including the option to suggest additional outcomes in free text. The survey outcomes were analyzed by the project team and discussed with the working group to discuss the next steps.

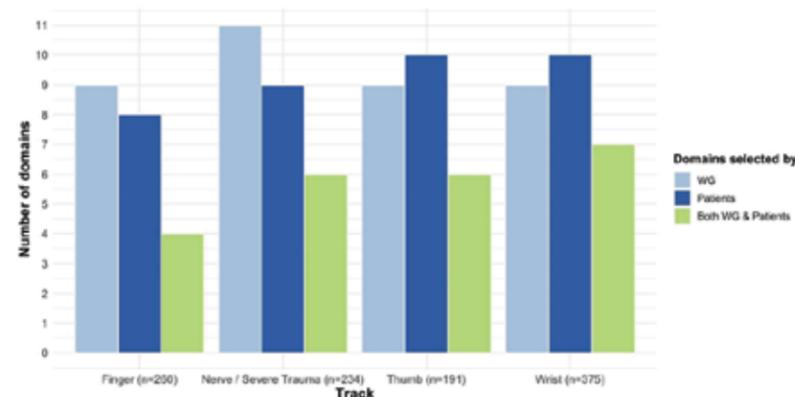


FIGURE 3: Overview of the outcome domains selected by the WG and patients and domains selected by both the WG and patients (n = 1,060). In addition, 95% of the patients indicated that we identified all relevant outcome domains. WG, working group.

Outcome tools

To identify all relevant outcome tools, additional systematic reviews were performed. First, systematic reviews were conducted for the thumb track. The following 2 search strings were used in MEDLINE (PubMed, published from 2008 onwards) to extract outcome tools: (1) outcome or assessment terms, combined with the body part region (ie, thumb) and outcome domain name (eg, "pain") and (2) track name (ie, "thumb") and tools measured in randomized controlled trials (Appendix E1). The results of the systematic reviews for the thumb were used as a basis for the other tracks, and the working group deemed additional systematic reviews necessary for specific aspects of other tracks to ensure a complete picture. Consequently, additional systematic reviews were conducted for PROMs on hand function/activities of daily living, specifically for the wrist track, patients with Dupuytren disease, and the nerve track. Furthermore, systematic reviews were performed for the following: (1) tools evaluating the range of motion specifically for the finger track, (2) tools evaluating sensibility, and (3) tools evaluating cold intolerance. All outcome tools mentioned in articles concerning the outcome domain under study were identified. Two independent reviewers (R.M.W. and A.O.J.-O.) identified and extracted the outcome tools, and disagreements in tool extraction were resolved in a consensus meeting. Manual reference searching was performed, and outcome tools were identified based on expert opinion (discussion among the working group). Subsequently, the outcome tools were reviewed by the project team and working group using standardized templates with respect to outcome domains, with evidence supporting

psychometric properties, feasibility, licensing fees, and the degree to which they were established in the field. Following this, the previously described Delphi process was used to select outcome tools for the chosen outcome domains.

RESULTS

The scope and approach for the hand and wrist standard set

All the working group members agreed to the aforementioned framing principles, and there was 100% agreement on the scope of the project (Fig. 1).

Outcome domains

A total of 18 domains were identified for the thumb track of the hand and wrist standard set after screening a total of 1,195 articles, manual reference searching, and a discussion among the working group (Fig. E2, available online on the *Journal's* website at www.jhandsurg.org). Table E1 (available online on the *Journal's* website at www.jhandsurg.org) demonstrates an overview of the identified outcome domains, including their definitions. The following outcome domains were considered essential for all the tracks (both regular and extended): pain, patient-reported hand function/activities of daily living, health-related quality of life, return to work, satisfaction with treatment results, complications, and revision. In addition, grip and pinch strength, range of motion, sensibility, and cold intolerance were considered essential for specific tracks only.

For the thumb track, 191 participants completed the patient-validation survey. Figure 3 demonstrates that 6 of 9 outcome domains selected by the working group were also considered essential by >80% of the

TABLE 2. Overview of the Identified Existing Tools to Measure Outcomes That Were Considered Essential for the Hand and Wrist Standard Set^a

Outcome Domain	Tools Identified
Cold intolerance	<ol style="list-style-type: none"> 1. CISS 2. VAS 3. McCabe cold sensitivity severity scale 4. PWES
Complications	<ol style="list-style-type: none"> 1. Method described by Rohde et al³⁷ 2. Method described by Vermeulen et al³⁸ 3. Method described by Lipira et al³⁹ 4. Method described by Dindo⁴⁰
Grip and pinch strength	<ol style="list-style-type: none"> 1. Three-jaw/palmar/tripod pinch/3-point pinch 2. Lateral/key pinch 3. Tip pinch 4. Grip strength using hand-held dynamometer 5. Grippit dynamometer 6. RET 7. Martin vigorimeter/sphygmomanometer 8. RIHM
Health-related quality of life	<ol style="list-style-type: none"> 1. SF-12 2. SF-36 3. EuroQol EQ-5D 4. Nottingham health profile questionnaire 5. World Health Organization quality-of-life-BREF questionnaire 6. Stanford HAQ 7. Wuolle questionnaire 8. Verbal rating scale 9. PSI 10. Permanent impairment scale
Pain	<ol style="list-style-type: none"> 1. VAS 2. NPRS 3. Troublesomeness grid questionnaire 4. Assessment of joint line tenderness 5. Pressure pain thresholds using a mechanical algometer 6. McGill pain questionnaire 7. McGill Pain Questionnaire—Short Form 8. West Haven-Yale multidimensional pain inventory 9. PROMIS Pain Interference Short Form 4/6a/6b/8 10. PROMIS scale—pain intensity 11. Brief pain inventory 12. MHQ pain subscale 13. DASH pain items 14. PRWHE pain subscale 15. AUSCAN pain subscale

(Continued)

patients. For the finger track (n = 260 survey participants), this was 4 of 9; for the wrist track (n = 375 survey participants), this was 7 of 9; and for the nerve and severe trauma tracks (n = 234 survey participants), it was 9 of 11. The additional outcome domains not yet included by the working group that were considered essential by >80% of the patients

completing the survey were coping/self efficacy, performance or fine hand use, wellbeing, and reported experience with health care delivery processes. Considering all the tracks together, 95% of the respondents indicated that we identified all the relevant outcome domains most important to patients (n = 1,060).

TABLE 2. Overview of the Identified Existing Tools to Measure Outcomes That Were Considered Essential for the Hand and Wrist Standard Set* (Continued)

Outcome Domain	Tools Identified
Patient-reported hand function/activities of daily living	<ol style="list-style-type: none"> MHQ Brief MHQ PRWHE MASS07 ABILHAND DASH QuickDASH Manchester-modified or M2 DASH FIHOA PSFS MAP-Hand Cochin hand function scale/DHI COPM POS—hand/arm questionnaire PEM AUSCAN MAM-36 UEFI Levine questionnaire/ Boston Carpal Tunnel Questionnaire Motor activity log M-SACRAH AIMS-2 Beursken's patient-specific approach tool (PSK) URAM SDSS PRUNE PROMIS upper-extremity function
Range of motion	<ol style="list-style-type: none"> Goniometry Palmar abduction: IMD Palmar abduction: pollexograph Palmar abduction: AMA Kapandji opposition Pulp-to-palm distance/composite finger flexion Total active movement Cylinder grip width Wire tracing Visual estimation Glove systems Photo imaging/apps
Return to work	<ol style="list-style-type: none"> Work role functioning questionnaire Work rehabilitation questionnaire Questionnaire (MHQ) work performance subscale
Revision	None
Satisfaction with treatment results	<ol style="list-style-type: none"> MHQ—satisfaction with hand function subscale VAS for satisfaction

(Continued)

TABLE 2. Overview of the Identified Existing Tools to Measure Outcomes That Were Considered Essential for the Hand and Wrist Standard Set* (Continued)

Outcome Domain	Tools Identified
Sensibility	<ol style="list-style-type: none"> Semmes Weinstein WEST Moving/static 2-point discrimination Vibrometers Shape-texture identification test/sensibility texture index

AIMS-2, arthritis impact measurement scales 2; AMA, American Medical Association; AUSCAN, Australian Canadian osteoarthritis hand index; BREF, abbreviated; CISS, cold intolerance symptom severity questionnaire; COPM, Canadian occupational performance measure; DASH, Disabilities of the Arm, Shoulder and Hand; DHI, Daruöz hand index; FIHOA, functional index for hand osteoarthritis; HAQ, health assessment questionnaire; IMD, inter metacarpal distance; MAM-36, manual ability measure-36; MAP-Hand, measure of activity performance of the hand; MASS07, Modern Activity Subjective Survey of 2007; MHQ, Michigan hand outcome questionnaire; M-SACRAH, modified score for the assessment and quantification of chronic rheumatoid affections of the hand; NPRS, numerical pain rating scale; PEM, patient evaluation measure; POS, patient outcomes of surgery; PRUNE, patient-rated ulnar nerve evaluation; PRWHE, patient-rated wrist/hand evaluation; PSFS, patient-specific functional scale; PSI, physical synthetic index; PWES, potential work exposure scale; QuickDASH, quick Disabilities of the Arm, Shoulder and Hand; RET, rapid exchange test; RIHM, Rotterdam intrinsic hand myometer; SDSS, Southampton Dupuytren scoring scheme; SF-12, Short Form-12; SF-36, Short Form-36; UEFI, upper-extremity functional index; URAM, Unité Rhumatologique des Affections de la Main; VAS, visual analog scale; WEST, Weinstein enhanced sensibility test.

*Not all the domains are assessed in every track.

Outcome tools and time points

After screening 2,068 articles, manual reference searching, and a discussion among the working group, a total of 90 existing outcome tools concerning the essential outcome domains were identified (Table 2, Fig. E3 [available online on the *Journal's* website at www.jhandsurg.org]).³⁷⁻⁴⁰ Of these, 5 tools that were measured across all the tracks were chosen by the working group. Furthermore, a total of 10 other tools that were measured in specific tracks only were chosen. Because no validated and feasible tools were available for hand and wrist conditions to assess return to work, satisfaction with treatment results, and complications, novel tools for these domains were developed by the working group (Appendix E2, available online on the *Journal's* website at www.jhandsurg.org). An overview of the selected outcome tools, the associated predefined time points, and the estimated time to complete are displayed in Figure 4A, B separately for each measurement track.

Track hierarchy and flowchart

Because patients with hand and wrist conditions often present with multiple conditions and because multiple tracks were created, a clear hierarchy and flowchart were needed to guide the end users of the standard set. Hence, the working group reached a consensus on a flowchart for selecting the right track (Fig. 5). This flowchart included a hierarchy of

the tracks for cases with multiple conditions, meaning that in cases with multiple conditions, only the PROMs of the track with the highest hierarchy were employed. In these cases, the clinician-reported outcome measurements of the track(s) lower in hierarchy were added if these were not already used in the track higher in hierarchy. For example, for a case that was allocated to the extended thumb track and extended wrist track, only the PROMs of the extended wrist track were used, and additional clinician-reported outcome measurements of the extended thumb track were added if not already present (in this case: thumb goniometry, Kapandji score, and pinch strength). The hierarchy was not based on the severity of the conditions within the tracks but on the suitability of using the PROMs in other tracks. For example, the Patient-Rated Wrist/Hand Evaluation is feasible for use across many hand and wrist conditions, whereas the Michigan Hand Outcomes Questionnaire may be less responsive in patients with wrist conditions.⁴¹⁻⁴⁵

Case-mix variables

The working group reached a consensus on recording at least the following case-mix variables at baseline: age, sex, level of education, type of work, smoking status, comorbidities, specific medical history, hand dominance, hand affected, description of treatment, and whether the consultation concerned a second opinion visit. More details on how to register these case-mix variables are available in the reference guide.²⁷

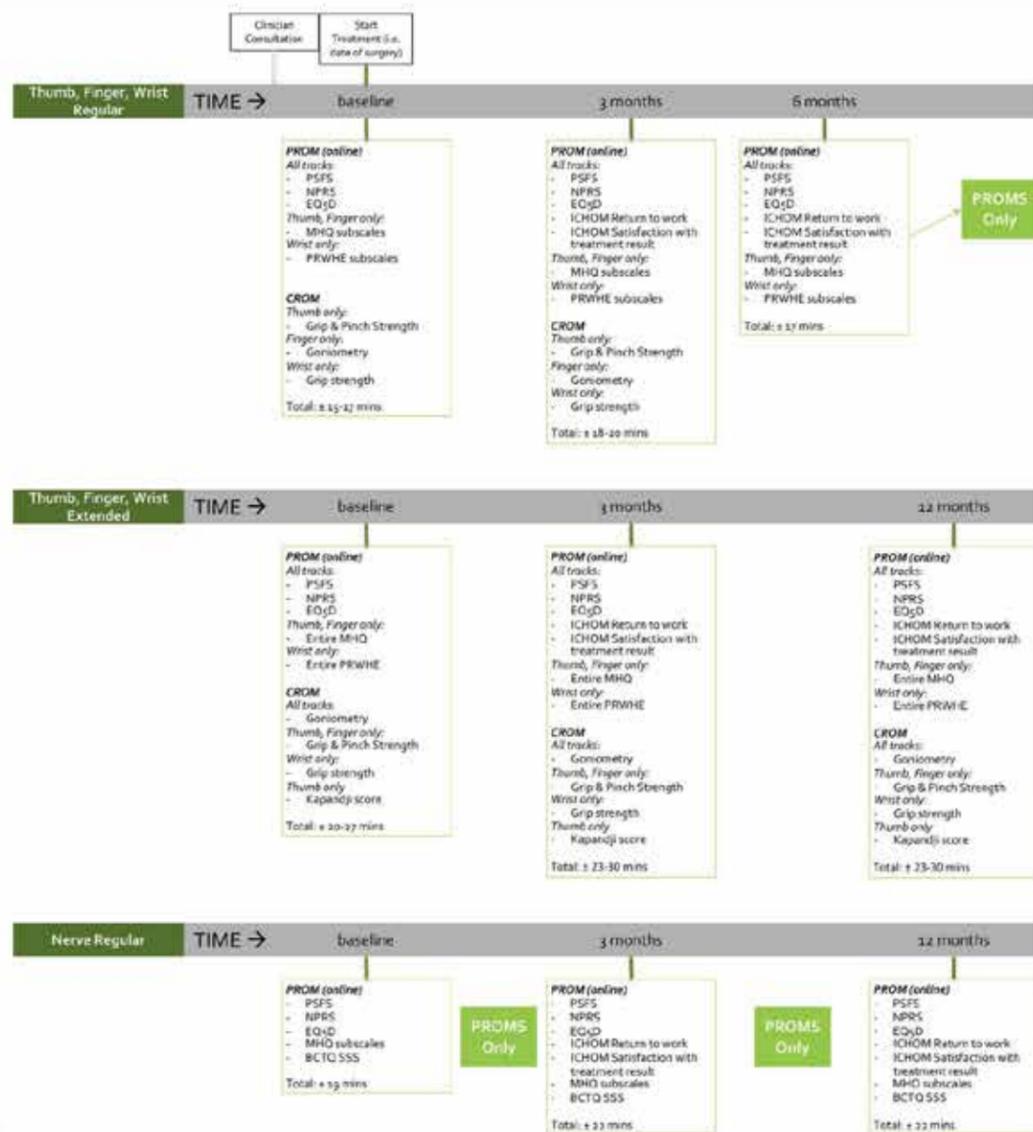
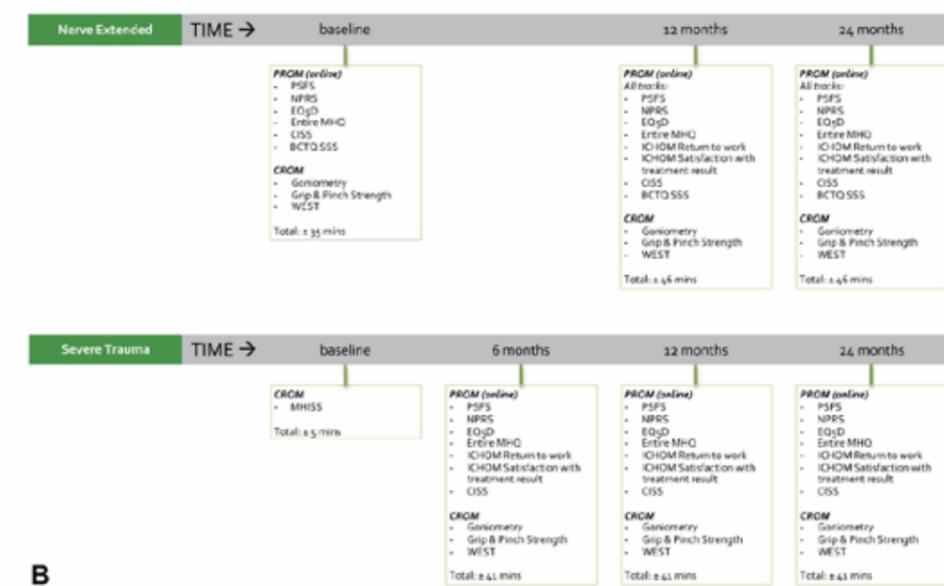


FIGURE 4: Overview of the tools measured in the ICHOM hand and wrist standard set. For each track, this figure demonstrates all measurements and associated estimated time to complete for every time point. Additionally, these figures indicate which measures are patient-reported (PROM) and which are clinician-reported (CROM). **A** Regular and extended thumb, finger, and wrist tracks and regular nerve track. **B** Extended nerve track and severe trauma track.

Professional open review

In addition to the patient-validation surveys, the entire standard set was distributed via social media, by professional organizations, and via individual approaches for review by professionals in the field of hand and wrist conditions. The participants of the professional open-review survey came from different countries (n = 32), and 46% of the participants were

hand surgeons, whereas 44% were hand therapists (Table E2, available online on the *Journal's* website at www.jhandsurg.org). In this survey, 82% to 97% of the respondents agreed with the selected outcome domains, 87% to 95% agreed with the selected outcome tools, 86% to 96% agreed with the proposed time points, and 94% agreed with the proposed case-mix variables (the number of respondents



B

FIGURE 4: (continued).

ranged from 98 to 244 depending on the item and measurement track).

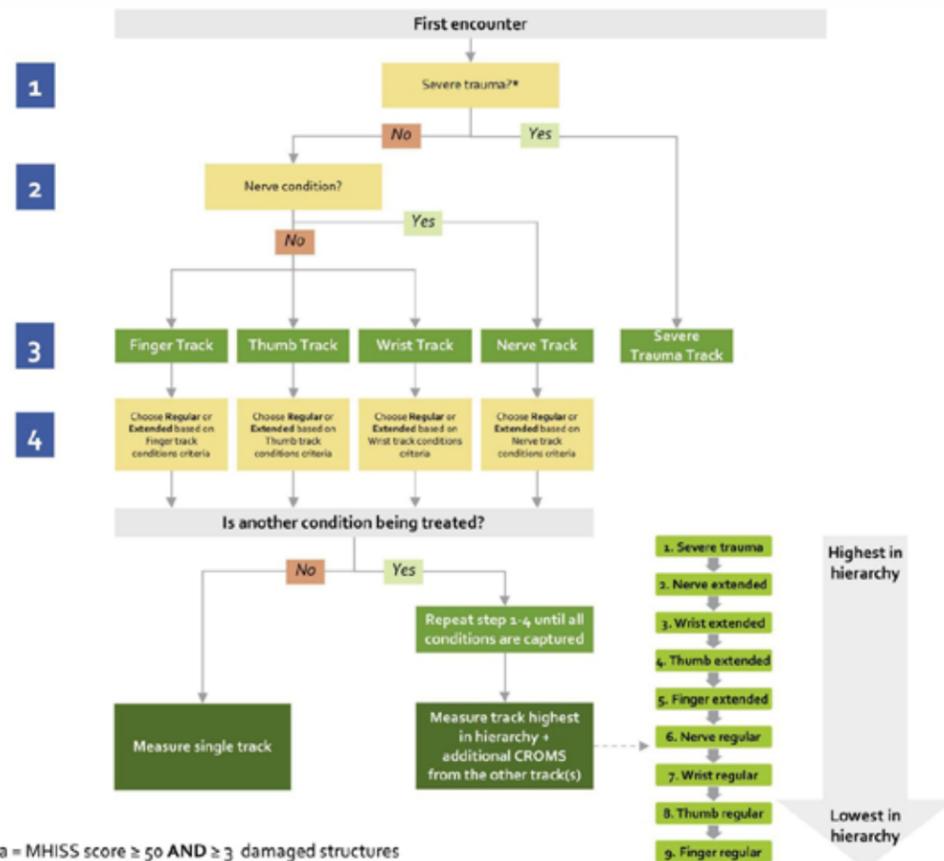
DISCUSSION

An international multidisciplinary working group defined a standard set of patient-centered outcome measures for patients with hand and wrist conditions, which is based on patient input, literature reviews, the assessment of registries, and an expert consensus. In this process, 5 measurement tracks were created within the ICHOM hand and wrist standard set: (1) the thumb track, (2) the finger track, (3) the wrist track, (4) the nerve track, and (5) the severe hand and/or forearm trauma track. Additionally, within the tracks, a distinction was made between regular and extended tracks, for which specific allocation criteria applied. The standard set contains a selection of outcome tools and standardized time points for outcome measurement. Furthermore, we developed a hierarchy for using the tracks when there are multiple conditions (eg, thumb base osteoarthritis and carpal tunnel syndrome), and we defined the risk-adjustment case-mix variables.

To our knowledge, our method of creating measurement tracks is innovative, in that it created an ICHOM standard set, because standard sets usually focus on 1 condition (eg, diabetes or stroke), whereas

in the current standard set, many hand and wrist conditions were included. Furthermore, for the classification of conditions into the regular or extended track, we created specific criteria based on the probability of changes in health status after the regular track final time point due to either the pathophysiology of the condition or an expected treatment effect. Thus, we aimed to create general criteria for classifying conditions into the tracks without creating an unwieldy and complex system.

Although these criteria are highly specific, our proposed system should be evaluated in terms of the daily clinical care of patients with hand and wrist conditions to determine the usability and aspects needing further optimization. Future efforts should evaluate whether the use of this system is feasible in a clinical research setting, or in other words, whether it is feasible in working hand clinics. The concept of measurement tracks in daily practice may be challenging because these tracks may not fit every patient or may be too general for evaluating condition-specific issues. However, examples of successfully applying similar methods for routine outcome measurement in hand surgery clinics exist.^{21,22} Additionally, the development of our system was based on inputs from experts in the field, and a 100% consensus on this approach was reached by our working group. Future implementation across



*Severe trauma = MHISS score ≥ 50 AND ≥ 3 damaged structures

FIGURE 5: Flowchart and hierarchy for the ICHOM hand and wrist standard set. This flowchart can be used to select the right track, and it is needed in cases with multiple conditions. For a patient to be allocated to the severe trauma track, there has to be an MHISS score of ≥ 50 and the presence of ≥ 3 damaged structures. MHISS, modified hand injury scoring system.

different geographical areas is needed to investigate whether it is feasible to use the measurement tracks, including the flowchart and hierarchy, in patients with hand and wrist conditions in everyday clinical practice. Furthermore, the feasibility, validity, and reliability of the standard set and potential modifications needed for its use in clinical practice across the health care system and cultural influences need to be investigated.

Although our effort is not the first initiative to reach a consensus on a standard set for outcome measurement in patients with hand and wrist conditions, we believe that the creation of measurement tracks, which are based on similar relevant outcome domains across conditions, will be feasible for use and will facilitate global implementation.¹⁷⁻²⁰ Additionally, we used a very rigorous consensus process that has been successfully used previously for

developing other ICHOM standard sets.²³⁻²⁵ Furthermore, multiple professional organizations in the field have been engaged in the development of the ICHOM hand and wrist standard set, which may facilitate acceptance and encourage the adoption of the standard set.

We did not include any measures of the patient-reported outcomes measurement information system (PROMIS).⁴⁶ One of the core properties of the PROMIS measures is the integration of computer adaptive testing, which has many benefits, but may limit global usage in settings without sufficient information and communications technology infrastructure (eg, in lower- to middle-income countries). Additionally, while there is a PROMIS tool for the upper extremity, this tool was not considered specific enough by the working group for many hand or wrist conditions. This standard set reflects the current evidence of

outcome measurement tools in hand and wrist care, but novel outcome measurement techniques may be incorporated over time for the revision of this standard set when superior evidence emerges. An advantage of PROMIS tools is their feasibility, and future research should investigate how the present ICHOM hand and wrist standard set compares with PROMIS with regard to this feasibility and accuracy, ceiling effects, or other performance characteristics. Theoretically, the outcome domains we selected should remain stable over time.

As in any standard set development, a potential limitation is that it reflects the opinion of a select group of experts. However, to avoid a selection bias, we used a transparent and structured Delphi process and performed multiple systematic reviews to support our choices with evidence.²³⁻²⁵

Another theoretical limitation of this standard set is the discrepancy between the outcome domains selected by the working group and those selected by the patient representatives, meaning that coping or self efficacy, performance or fine hand use, psychological wellbeing, and reported experience with health care delivery processes were not included in the standard set but were considered essential by patients. In keeping the standard set as minimal as possible, we believe that performance or fine hand use might have been captured using a hand-specific PROM that encompasses dexterous hand use and that psychological wellbeing might have been captured within health-related quality-of-life measures. Furthermore, ICHOM standard sets do not usually include tools for reported experience with health care delivery processes because these mainly concern the process of health care delivery rather than with a health care outcome. In addition, following our framing principles, we aimed to create a minimum set, constantly weighing the necessity of including additional outcomes against the burden of assessment. Moreover, the finding that 95% of the patients indicated that we identified all relevant outcome domains and the results of the professional open-review survey give us the confidence that we captured the views of the relevant stakeholders. Hence, both the completeness and burden of this standard set should be evaluated globally from patient and clinician perspectives in the future.

An additional limitation is that we included newly developed tools for return to work, satisfaction with treatment results, and complications that have not yet undergone testing for reliability and validity. Although very similar tools have been validated or previously used in clinical research, our new tools require further investigation. Specifically for

satisfaction with treatment results, doubts have previously been raised on the reliability and validity of the tools measuring this construct.⁴⁷⁻⁴⁹ However, a recent study by De Ridder et al⁵⁰ found good-to-excellent construct validity and very high test-retest reliability of a satisfaction with treatment results questionnaire very similar to the tool currently posed.

In conclusion, we present the ICHOM hand and wrist standard set. Five measurement tracks were created within the hand and wrist standard set, comprising the thumb, wrist, finger, nerve, and severe hand and/or forearm trauma tracks. The global implementation of the ICHOM hand and wrist standard set may facilitate VBHC for patients with hand and wrist conditions.

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Obituary

Graham Lister



Graham Lister died on 16 September 2021, aged 85 years after a prolonged period of ill health. Known throughout the world for his expertise in hand surgery, he rose to become President of the American Society for Surgery of the Hand.

He was particularly renowned for his logical approach to diagnosis and his teaching skills. He was a meticulous surgeon, a virtuoso of the art.

Although much of his surgical career was spent in the USA, his influence was worldwide through the training programme in Louisville, Kentucky. Proud of his Scottish heritage, he never forgot his origins. His grandfather James, was a poet and successful civil engineer, running a company in Dundee with 35 employees. He fell to his death whilst working on a bridge in Newcastle, Australia and as all his money had been invested in the project, the family was left penniless.

Graham's father, Duncan, had to leave school at 13 years old and go to work, as he was the eldest child in the family, thus following an established custom. As a boy, the highlight of the week was Sunday, when lighting the one and only fire of the week. His early years, he described in his memoir, "Many Changeful Years", published in 2005.

Despite this impoverished background, his academic talent became obvious, eventually resulting in a place to study medicine in Glasgow University.

To assist funding this pursuit, he applied for and obtained only one of only two Kitchenerscholarships, committing himself to five years' service in the Royal Navy. A certificate documenting his appointment as Surgeon Lieutenant Commander, Lister RN, was always on display in his office. He served at the Royal Naval hospitals in Gosport, as well as spending three years at the Royal Naval hospital in Mauritius. At this stage in his career, his interest was in obstetrics, having been influenced by Ian Donald in Glasgow. Although, a career in the Navy beckoned, he decided to return to Scotland to pursue a career in surgery at Glasgow Royal Infirmary, the home of another famous Lister.

Two years later he was appointed Senior Registrar in Plastic Surgery at Canniesburn, a world renowned centre. He remained there for five years. During this time, with McGregor and Jackson, he published a paper on the use of the groin flap in hand surgery. This revolutionised the treatment of soft tissue injuries to the hand and paved the way for the microsurgical transfer of skin flaps in plastic surgery. He was influenced by Athol Parkes, a hand surgeon in the Western infirmary, who showed him, that logical analysis of clinical examination could lead to sound diagnosis - hence he embarked on his seminal work, "The Hand - Diagnosis and Indications", which became a bible for trainees, wishing to learn the diagnostic tests required in hand surgery.

A fellowship followed with Harold Kleinert in Louisville, Kentucky. Kleinert immediately recognised a kindred spirit noting his dynamism, organisational talent and logical analysis applied to diagnosis.

In 1974, Lister joined Kleinert in his hand surgery clinic in Louisville as a partner, the largest trainee centre in the world at the time. He instituted a hand surgery ward in Louisville, with specialised nurses to care for the patients, as well as a daily, early morning hour of teaching, including lectures, journal clubs and case discussions, as well as twice weekly tutorials for nurses. Recognising the need for formal training in microsurgery, he recruited Robert Ackland and founded the microsurgical laboratory in University of Louisville.

After 16 years in Louisville, he moved to Salt Lake City, where he spent 7 years. Eventually, frustrated by the changes in medical practice, especially managed care, he retired at the age of 60. During the course of his career, his teaching was such that he delivered 890 lectures in 30 countries from Argentina to Yugoslavia. His research interests centred around microsurgical research in conjunction with Maria Siemionow, studies on venous anatomy with Nystrom and an interest in bionic arm experiments. His publications included 7 books as sole author or co-author, the most memorable being *The Monograph - "The Hand, Diagnosis and Indications."* He had 37 chapters in multi author books and published 84 scientific papers.

Whilst in the UK, he had organised the Senior Registrars Travelling Club and had been President of the British Medical Students Association as well as President of the International Federation of Medical Student Associations. He organised international workshops on congenital differences of the hand in Hawaii and Salt Lake City. He was appointed visiting professor to the Educational Foundation of the American Society of Plastic and Reconstructive Surgery.

He was an honorary professor of surgery at the University of Ljubljana and he was the first Sir Harold Gilles memorial professor in Auckland, New Zealand and was Moynihan lecturer at the Royal College of Surgeons of England.

He became President of the American Society for reconstructive microsurgery and President of the American Society for Surgery of the Hand.

He designed and organised bi-annual courses in plastic surgery and hand surgery: the international course in plastic surgery at Canniesburn, the hand surgery course in Louisville, the European hand surgery course and course in plastic surgery both with his close friend, Marco Godina and both commenced in Ljubljana.

He was an outstanding surgeon and teacher. His Scottish heritage imbued him with a strong work ethic. He expected no less in others. His personality came across as confident, but hid an inner insecurity in which he constantly questioned his own judgement, always thinking ahead to the next potential complication and how to avoid it. No bad trait in a surgeon and one which many would be wise to follow. As a man, he did not rush into friendships, but let them grow naturally and once established, they were lifelong - a loyalty that worked both ways.

His particularly contribution to British hand surgery lies in the training that he gave to many of the present senior hand surgeons in the UK and in the way that training has been passed onto the next generation through their teaching and through his writings.

He is survived by his children, Guy, Sally, Ross and Emma and by his first wife Alison and is survived by Lois who he married in 1993. He died on the 16th September 2021 at home in the presence of Emma and Lois. Graham Duncan Lister was born on the 14th September 1936.

Paul Smith

Co-author : "The Hand"
Plastic and Reconstructive Surgeon
London, UK
(on behalf of The British Society for Surgery of the Hand)

Yasuo Yamauchi

MD, PhD 1931 - 2021



Yasuo Yamauchi was born on 23 October 1931 in Hamamatsu-city, Shizuoka-ken, Japan. He graduated from the Tokyo University School of Medicine in Japan in 1956, completed his Internship in 1957 at the US Naval Hospital, Yokosuka,

before taking up a surgical residency at the University of Michigan Hospital in the USA. He returned to the Tokyo University in 1959 for his postgraduate training in Orthopaedics. In 1966 he was appointed Assistant Professor in the Department of Orthopaedics at the same University. Yamauchi became Research Fellow from 1967-1968 at the Blodgett Memorial hospital, Grand Rapids in Michigan under Alfred Swanson, working on the development of flexible implants for small joint reconstruction and biocompatibility of silicone in bone. He then returned to Japan to become Associate Professor at the Juntendo University School of Medicine in 1969, and full Professor in 1982. In 1989 until 1994 he was also appointed Director of the Juntendo University Hospital. He became Professor Emeritus in 1997 at the Juntendo University.

Yamauchi served on numerous medical bodies, amongst others the Board of Trustees of the Japanese Orthopaedic Association (1991-1995) and President of the Japanese Orthopaedic Association, the Japanese Society for Surgery of the Hand, the Japanese Society for Microsurgery, the Japanese Society for Prosthetics and Orthotics, the Japanese Scoliosis Society, the Japanese Society for Clinical Biomechanics, the

Eastern Japanese Society for Surgery of the Hand, as well as of the International Federation of Societies for Surgery of the Hand (IFSSH) (1998-2001). He was also Member of the American Society for Surgery of the Hand, American Orthopaedic Association and SICOT.

Professor Yamauchi served as Editor-in-Chief of the *Seikei-Saigai-Geka Journal* (Orthopaedic and Traumatology Surgery), and advisor to a number of other Journals. He published numerous articles and contributed many book chapters including "Techniques in Hand and Upper Extremity" (Lippincott). He introduced the board certification system in the Japanese Orthopaedic Society.

Yasuo Yamauchi passed away on 26 June 2021 at the age of 89 years.

For his exceptional contribution for the promotion of Hand Surgery, Prof. Yasuo Yamauchi was honoured as "Pioneer of Hand Surgery" by the IFSSH at its Ninth International Congress in Budapest, Hungary on 13 June 2004.

William Bruce Conolly

AM, FRCS, FRACS, FACS 1935 - 2017



William Bruce Conolly was born on 1 February 1935 in Molong, New South Wales, Australia. He started his schooling at a 'one-teacher school' and by correspondence before being sent to the Sydney Church of England Grammar School (Shore). He obtained his

medical training at the University of Sydney (1953-1959). He then got his surgical training in Britain (FRCS, 1963), and spent a period at the Derbyshire Hand Unit in the UK.

Conolly gained more surgical experience at the University of California and the Columbia Presbyterian Medical Centre in New York, USA, before returning to Sydney in 1969, where he was employed as a surgeon at the Sydney Hospital. He then founded the Hand Unit, the first such in Australia where he became Clinical Associate Professor in 1993. He was also Conjoint Associate professor of Hand Surgery at the University of New South Wales from 1992.

In 1997 and with two other hand surgeons, they started a private Hand unit at the St. Luke's Hospital at Potts Point.

Bruce Conolly was passionate about humanitarian outreach activities. He led numerous outreach missions, often involving other surgeons and therapists as well, to at least 25 countries, conducting workshops, training seminars and teaching sessions. These included Vietnam, Sri Lanka, Baghdad, Iran, Iraq, India, Bosnia, Burma, Nigeria, and many others. Many of these were financially sponsored to some degree by Rotary Australia.

His most notable outreach effort was with his doctor wife Joyce in 2001 in Myanmar. Later they established the Myanmar Australian Conolly Foundation for Health. Most of this major clinical and educational mission was funded by the Conollys themselves.

Because of his pioneering work in especially hand surgery, Prof. Bruce Conolly was awarded the "Member of the Order of Australia" in 1994, the "Paul Harris Fellowship International Rotary Award" in 1999, the "Archie Telfer Prize for outstanding service nationally and internationally" from the Sydney Hospital in 2000, and the "Humanitarian of the Year Award" from the Variety Club in 2002.

Prof. Conolly was a prolific writer. He authored and co-authored six books on Hand Surgery as well as Hand Rehabilitation, apart from numerous chapters in other text books and articles in peer reviewed journals.

Bruce met his wife Joyce (née Lavan), also a medical doctor, while in Britain. Their four children are John, Christine, Bruce and Sarah. He loved his tennis and squash, and never hesitated to challenge much younger players! Bruce Conolly always had a smile on his face, and his legacy is his interested and care for "the others". He passed away on 21 February 2017.

William Bruce Conolly was honoured by the IFSSH as "Pioneer of Hand Surgery" at the International Congress in Sydney, Australia, on 11 March 2007.

Rehabilitation of Triangular Fibrocartilage Complex Injuries

The triangular fibrocartilage complex (TFCC) is a ligamentous structure situated on the ulnar side of the wrist that plays an important role in distal radio-ulnar joint (DRUJ) stability, dispersion of ulnar-sided wrist forces, and proprioceptive feedback.¹⁻³ Following injury, clinical presentation may vary between clients, with some common symptoms including decreased range of motion (ROM), decreased grip strength, increased ulnar-sided wrist pain (USWP), and/or impaired proprioceptive function.³ Common mechanisms of injury associated with TFCC injury varies from low-energy repetitive overuse, to high-energy forced twisting or impaction of the wrist or forearm.⁴ Furthermore, injury severity can also vary between clients, from relatively minor disruption to the peripheral structures, to complete tearing of the foveal fibres leading to DRUJ instability.⁵ When considering rehabilitation goals for this injury it is important to consider these factors, which can be difficult and sometimes confusing.

This article proceeds the content covered in the November 2021 IFSSH-Ezine edition #44, which discussed TFCC anatomy and assessment. All rehabilitation suggestions are for educational

purposes only; please consult with senior health professionals prior to practice changes or implementation. As there is no consensus in the current literature, specific treatment interventions will not be the focus of this article.⁶ Rather, several rehabilitation factors will be discussed that may be considered when choosing interventions that align with your workplace or region of practice.

Some important factors to consider when determining TFCC rehabilitation includes DRUJ stability, and time between injury and clinical presentation for treatment. Relative to the uninjured wrist, the DRUJ may present as 'stable' or 'unstable', with an unstable DRUJ suggesting involvement of the foveal fibres.^{7,8} TFCC injuries may also be 'acute' or 'chronic', with acute injuries previously defined as 'up to three-months post injury', and chronic injuries '6-months or longer'.⁷ While intervention within these time frames may be acceptable when considering TFCC injuries, early assessment and intervention is recommended.

Acute-stable TFCC injuries may involve the articular disc and/or superficial ligaments, commonly without involvement of the deep foveal insertion.

This injury may present as significant USWP and/or proprioceptive dysfunction, with or without ROM impairment. Acute-stable TFCC injuries commonly respond well to therapeutic intervention, with a focus towards minimising USWP, maintaining proprioceptive function, and a timely return to activities of daily living (ADL).

Intervention options may include intermittent use of an orthosis or brace (Figure 1) to reduce or manage USWP, functional support taping, activity modification, or proprioceptive exercises.^{4,9,10} Progression towards heavier functional use or strength-based activities may be gradual and should be attempted as tolerated. Surgeon opinion may be indicated if symptoms persist, or rehabilitation goals are not being achieved as expected.^{4,9}



Figure 1: Static forearm-based volar wrist immobilisation orthosis. Image provided by Active Hand and Upper Limb Therapy, Gold Coast, Queensland, Australia. (<http://activehandtherapy.com.au/>)

Acute-unstable TFCC injuries may involve both superficial and deep (foveal) structures. This injury may present with a positive ballottement test when clinically assessed, significant USWP and difficulty with ROM, particularly supination.⁷ In this instance, restoring DRUJ stability should be a priority for rehabilitation, achieved by conservative or surgical intervention. Temporary immobilisation in an orthosis which limits wrist motion and forearm rotation may be indicated to achieve this, such as a 'Sugartong splint' (Figure 2).



Figure 2: Static above elbow wrist and forearm immobilisation orthosis, or 'Sugartong splint'. Image provided by Active Hand and Upper Limb Therapy, Gold Coast, Queensland, Australia. (<http://activehandtherapy.com.au/>)

Proprioceptive exercises may be considered during the immobilisation period, such as isometric Extensor Carpi Ulnaris or Pronator Quadratus exercises, without compromising the goals for immobilisation.¹⁰ Alternatively, surgical intervention may be indicated to restore DRUJ stability.

Once restored, gradual and graded wrist and forearm ROM exercises may be commenced as tolerated. Light functional use should follow, with progression towards heavier functional use or strength-based activities commenced once permitted by senior health professionals.

Chronic-stable and chronic-unstable TFCC injuries may present with degenerative changes to the TFCC structures. Both may present with persistent and/or increasing USWP, impaired grip strength or ROM, difficulty completing common ADL, and may have a history of wrist trauma such as distal radius fracture.¹¹ In the author's experience, chronic-stable injuries are common in athletes and industry workers, while chronic-unstable injuries are more common in an elderly population with a positive ballottement test as noted above.

Rehabilitation goals should focus towards decreasing USWP to facilitate a return to meaningful activities. Interventions may include activity adaptation, functional support braces or taping (Figure 3), and/or proprioceptive exercises. Surgeon opinion may be required if USWP or other notable symptoms persist. Debridement or DRUJ reconstruction procedures are reported in the literature to have positive outcomes.^{12,13}

It is hoped that this article will assist health professionals when considering a rehabilitation approach for TFCC injuries. This article is intended for educational purposes, to fuel meaningful discussion among member of the rehabilitation team, rather than prescribe specific opinion-based interventions.

It is also hoped that this article becomes the catalyst for future research into this much needed topic of interest.



Figure 3: Functional support taping of the wrist for sports activities. Image provided by Active Hand and Upper Limb Therapy, Gold Coast, Queensland, Australia. (<http://activehan>

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IFSHT February 2022

IFSHT NEWSLETTER - REACH VOLUME 1, NO. 3



The IFSHT is excited to present the third issue of the new IFSHT newsletter available here: REACH Vol 1, No 3

This new publication aims to collate Research, Education, Achievement and Clinicians in Hand and upper limb therapy around the world.

Within this issue we again feature our Levels of Evidence section. Also find interesting Clinical Pearls and the Spotlight On! section features the Slovenian Society for Hand Rehabilitation.

Please be reminded of the REACH logo competition! Entries can be emailed to informationofficer@ifsht.org by 31 March 2022. The winner will be announced in June 2022.

We call on hand and upper limb therapy clinicians and researcher to submit any contributions for consideration to informationofficer@ifsht.org.

SILENT AUCTION - LONDON 2022

The legendary triennial IFSHT Silent Auction will take place on Thursday 9th June 2022 at the Congress in London. This is a very important date in the IFSHT diary with significant funds raised to enable IFSHT to support hand therapists from emerging countries to attend the next Congress.

In the months leading up to the Congress, please collect items which can be sold in this auction. This congress, for the first time, we will be actively seeking both physical items and promises. Physical items can be, for example, scarfs, jewellery, models, books, hand therapy tools and other items. Many items are donated with a hand theme but a wide variety of items helps to draw the crowds. Promises include the offer of, for example, one hour of teaching on a topic of your choice, free access to a paid online training module, delivery of a lecture to a hand therapy department etc. This enables therapists from around the world to connect. Please also donate items representing your country.

We very much welcome surgeons to participate with donations and with purchase.

Please register your items before the Congress if possible, by clicking on this link. This will take you to a form to complete to upload the item to our platform GalaBid.

Please bring your items to the designated place at the congress registration on Monday evening, 6th June or Tuesday morning. The auction will go live on Tuesday 7th June and you can start bidding straight away. On Thursday 9th June all the physical items will be displayed. Some items will be "buy it now" with a reserve price.

If you are bidding on a physical item, you will need to be able to collect the item on Thursday 9th June before 5 pm (or send a representative to bring it home for you). Successful bidders on the promises items will receive an email voucher in order to redeem the item. Thank you for your support. It really makes so much difference.





Tips and Techniques

JHS(E)

Review Article

Rehabilitation after flexor tendon repair and others: a safe and efficient protocol

Jin Bo Tang

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Abstract

In this review I detail the protocol that I use after flexor tendon repair and outline my experience regarding how its framework might be used for other disorders. The early passive-active flexion protocol has a sufficient number of cycles of active flexion in each exercise session, which is at least 40, and ideally 60 to 80. The frequency of exercise sessions may range from 4 to 6 a day, distributed in the morning, afternoon and evening. Increasing the number of daily sessions *without* a sufficient number of runs in each session is ineffective. In the first 2-3 weeks after surgery, active digital flexion should go through only a partial range. In weeks 4-6, the patient gradually moves through the full range. With modifications, I suggest generalization of the partial-range finger motion to therapy after treating other hand injuries. I consider partial-range active flexion a generalizable working principle for different hand disorders.

Keywords

Flexor tendons, rehabilitation, exercise session, number of motion cycles, hand disorders, partial-range digital flexion, early active motion

Date received: 18th July 2021; accepted: 19th July 2021

Over past 10 years, after I started to use a partial-range active digital flexion protocol for flexor tendon repair years earlier, I sought to determine the proper number of motion cycles for it, and to simplify the protocol and expand its use to other hand disorders. In this review I detail the protocol and outline my experience regarding how its framework might be used for other disorders.

Combined early passive-partial active flexion: a current mainstay

Early active digital flexion is currently a popular way of rehabilitation after primary flexor tendon repair. In discussion with surgeons and therapists, I found quite a few of them have not used an updated protocol; they use protocols that are 20 to 30 years old, though also called 'early active' motion. The earliest protocol differs dramatically from the current ones, resulting in outcomes of Zone 2 repairs that are not as good as those using an updated protocol.

The earliest protocol of 'early active' flexion calls for only four repetitions performed in 2-hourly intervals [Small et al., 1989], which is perhaps only a warm-up process. This protocol is also used with

ten repetitions of motion hourly or 2-hourly. With this protocol, it is impossible to efficiently move the tendon, because ten repetitions would slightly decrease joint stiffness and end without sufficient digital flexion. The protocol is not greatly different from a passive flexion protocol regarding the efficiency of tendon motion.

Details of the most updated protocol

Sufficient number of runs in each session and partial-range motion in the initial weeks

The current early passive-active flexion protocol demands a *sufficient* number of cycles of active flexion in each exercise session, which is at least 40, and ideally 60 to 80. The frequency of exercise sessions is

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not as important, which may range from 4 to 6 a day. Thus, every day the patient should perform 200 to 300 cycles of active digital flexion, with the cycles divided into four to six sessions, distributed in the morning, afternoon and evening. I often instruct patients to have one session each in the morning, afternoon, before dinner and before going to sleep. They can add one or two sessions as they like, but the minimum is four sessions a day. To ensure sufficient number of runs in each session, I advise them to set a clock for 15 or 20 minutes for a session, which is much easier than counting the exact number of runs. Motion for 15–20 minutes would ensure more than 40 runs of digital active flexion. The motion can be in normal speed or slower and may include brief rest. Most patients do at least 80 digital motion cycles in 15–20 minutes.

Before starting active flexion, I stress the importance of performing a full or close-to-full range of passive digital motion for ten or more cycles, usually 10–30 cycles. That is why it is called *passive-active* motion. If very mild edema presents, the passive motion may need fewer cycles before proceeding to 40 or more cycles of active flexion.

In the first 2–3 weeks after surgery, active digital flexion should go through only a partial range, because moving through the entire flexion range is impossible to achieve comfortably in most cases, and motion over a partial range is sufficient to glide the tendon repair site. Motion through the entire range risks the repairs unnecessarily. I usually ask the patients to move through initial 1/3, 1/2 or 2/3 of the full flexion range starting from full extension. I emphasize they actively flex to a point of comfortable resistance within the partial-range, but do not set a specific goal so not to overload the tendon. In weeks 4–6, the tendon repair grows stronger, so the aim is for the patient gradually to move through the full range.

Active flexion is easier out of the splint, because a splint adds resistance to digital motion. For compliant patients, out-of-splint motion is safe and efficient. I order out-of-splint motion for most of my patients. The patients should put on the splint right after each session, where it protects the hand from inadvertent use and serves as a cautionary reminder to other people.

I do not instruct the patient to place the opposite hand vertical to the palm of the repaired hand as a set goal for the finger to reach. This goal is particularly difficult for a repaired little finger to achieve. Comfortable digital flexion increases in later runs of a session. The other hand crossing the palm interferes with the later runs.

The rationale behind the partial-range active flexion over the initial flexion range is that the curvature

of the flexor tendons is smoothest with the fingers mildly flexed (Wu and Tang, 2013, 2014). From full finger extension to moderate flexion, the tendons are subjected to minimal bending forces. However, the extreme flexion subjects the tendons to a great bending force, which may easily rupture the repair (Tang et al., 2001, 2003) (Figure 1).

Wrist position is not important and the hand can be in resting position

The exact wrist position in the splint is not important, neither is the length of the splint over the forearm. I make the splint to cover the distal 1/3 of the forearm. The splint extends distally to the tip of the digits and protects the digits in a resting position. Because the patient removes the splint to move for 1–2 hours each day, there is less chance of joint stiffness due to splinting. A comfortable hand position in the splint is a primary consideration. A neutral or slightly flexed or extended position of the wrist suffices. I put the metacarpophalangeal (MP) joints in mild or moderate flexion and interphalangeal joints in extension or minimal flexion, which lessens tension on the repaired tendon and allows digital extension, and the digits rest in the resting position.

A plaster splint versus thermoplastic splint

I mould a dorsal plaster splint in the operation room and use it for protection continuously throughout the weeks after surgery. I do not change it to a thermoplastic splint, because a plaster splint, well-padded with cotton and covered by a stocking, is comfortable and free of sharp edges. The patient can unwrap the elastic bandage over this splint easily. The fingers can mostly be covered by the bandage, which protects the fingers securely. A thermoplastic splint is fine, but I prefer a plaster one.

Wearing a thermoplastic splint may increase the difficulty of little finger movement. I did see one tendon ruptured in a little finger during active flexion, because the thermoplastic splint was slightly curved and restricted little finger motion. Care should be applied to avoid this risk.

I instruct my patients directly at the first post-operative clinic visit, which is usually 4 to 7 days after surgery. The digital motion is initiated after the visit. I often ask the patient to record a voice memo or a smartphone video while I teach them the protocol, which I have described above. The explanation takes only 5 to 10 minutes, therefore I see no need to go through therapists. Because the motion is simple to demonstrate, most uncomplicated patients do not need formal therapy.

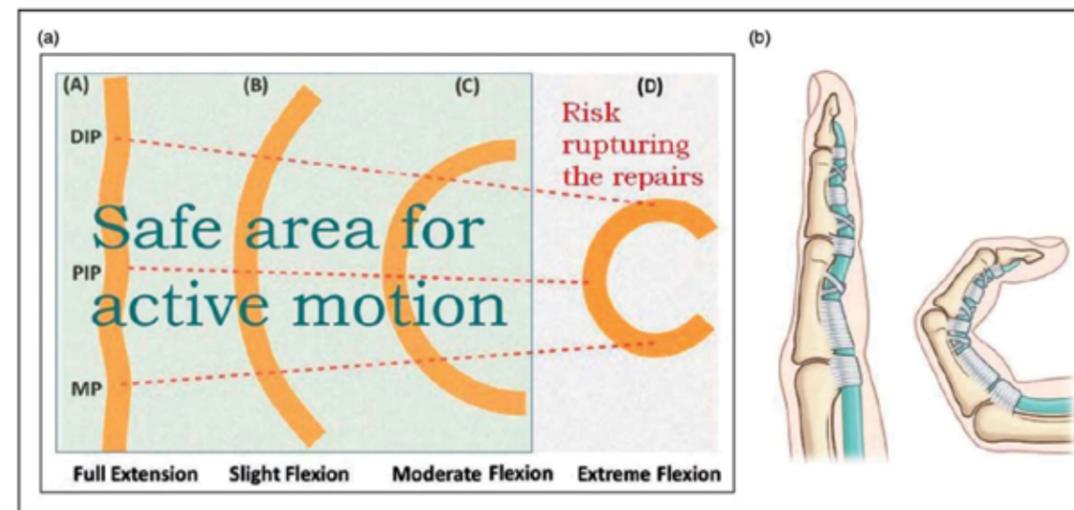


Figure 1. (a) (A) At the full extension of the finger, the tendon shows physiological curves within the digital flexor sheath. (B) When the finger is slightly flexed, the curvature of the tendon is small and smooth. The tendon sustains a small amount of bending force. (C) When the tendon is increasingly flexed, the tendon curvature increases and the bending force increases accordingly. (D) At the extreme of digital flexion, the tendon gliding arc becomes nearly circular, and the tendon is the easiest to disrupt. Therefore, the safe range of active digital motion is from full extension to moderate flexion. (b) Active flexion between two shown positions is in the safe range. MP: metacarpophalangeal joint; PIP: proximal interphalangeal joint; DIP: distal interphalangeal joint.

Three or 4 weeks after surgery, I instruct the patient to gradually increase active flexion aiming for a full or close-to-full range of active flexion, with passive motion more specifically targeted at any finger joints if there is stiffness. Such exercises need to continue for at least 3 to 4 weeks. The splint is not needed after 6 weeks for most patients. After week 6, I sometimes urge patients to wear a splint only when they go outside, which prevents unintentional use or injury. For residual joint stiffness at this stage, therapists are a great help.

Considerations

In previous writings I have given slightly different numbers of runs – a range of 20–30 times of active flexion after 10–30 times of passive motion – for each exercise session, which indicates correctly executed cycles, usually with the therapists, and consideration for allowing room for users to individualize the programme with a range (Tang, 2007, 2018a, 2018b; Tang et al., 2012, 2017). The protocol – called Nantong regime – is used in different units where surgeons perform strong surgical repairs and vent the pulleys according to current guidelines. They obtained consistent outcomes, with zero ruptures or ruptures only in exceptional patients who did not

follow instructions (Pan et al., 2019, 2020, Tang et al., 2017, Zhou et al., 2017). The required number of runs indeed varies among patients according to trauma severity and structures involved.

I have observed that very reliable patients tend to do more cycles of motion, while some others do fewer than instructed or have inefficient runs. For the patients coming from a diverse background, a slight increase in the cycles of motion in a session offsets the influences and provides a safety margin. This increase is easy and safe. It is clear to me that the minimum of runs in a session is better set at a slightly higher number. Minimum of 40 runs of active flexion in one session should be clearly instructed to the patient for exercise *at home*. This is a key element in the protocol. It is very clear to me that increasing the number of daily sessions *without* a sufficient number of runs in each session is useless, because each session would end up with only being a warming up process.

There is no set limit in the duration of each session and the frequency of sessions in one day. The patients can do more runs as they wish, but I explain to the patient each session should not need to exceed 30 minutes, because a longer session is unnecessary and may tire the patient, leading to less care regarding the force exerted and therefore be more risky.

Many sessions a day or hourly exercise is similarly unnecessary.

After flexor tendon repair in Zone 4 and 5, the motion can be modified according to the number of the tendons repaired, being less aggressive generally. For tendon repairs with concomitant soft tissue loss or a phalangeal fracture, the same protocol is used, but the patient actively flexes the fingers over a smaller range and motion is slower and under therapists' close guidance and delicate adjustment. Adhesions occur in some patients, and motion range after 6 to 8 weeks of rehabilitation may still not be ideal. For these patients a relative motion splint and other methods are useful (Lalonde, 2021). For secondary tendon reconstruction, fewer motion sessions are necessary, and motion can be started during the second or third week after surgery.

Protocols for extensor tendons, hand fractures and other conditions

With proper modifications, I suggest generalization of the partial-range finger motion to therapy after treating other hand injuries, because amply reducing digital joint stiffness or gliding the tendon does not need full motion; rather *sufficient* repetitions of *partial* motion.

Extensor tendon repairs

After extensor tendon repairs (except in Zone 1), the motion can be used safely because active motion through a partial range of the digits or the wrist does not overload the repair. The motion can start in the second or third week after surgery.

Phalangeal and metacarpal fractures

After surgery or splinting for the fractures, the patient starts partial-range active flexion beginning in the third or fourth week. Only mild finger joint stiffness is present in most patients, which disappears within weeks of starting motion. I find no need to move the fractured hands in the first two weeks, which causes pain and risks re-displacing the fracture.

Not immobilizing unrelated joints with the splint is a key. The splint should only be beyond one joint distal to the site of fracture. For example, the dorsal splint for a metacarpal fracture should not extend to the proximal interphalangeal joint, leaving this joint entirely movable and the MP joint free to perform partial active flexion from mild to full flexion,

for 4–6 daily sessions with each session lasting 15 or 20 minutes (Xing and Tang, 2014).

Ligament repairs of MP or interphalangeal joints

After surgery, the patient starts the partial-range active flexion in the third or fourth week, and aims at full range of active flexion after week 5.

Overall, I find no evidence to support a very early start of active motion for these disorders, except for a repaired flexor tendon in the sheath area. Depending on structures involved, *delayed early active motion*, starting at the late half of week 2 or in the third week, makes the therapy easier and safer, and the patient more comfortable, without impairing treatment outcomes. I consider early active motion is the motion starting in the first week or the early half of week 2.

The ranges of starting time for active motion that I use are summarized in Figure 2, with exact time decided with consideration of individual conditions. I use *delayed early active motion* except primary flexor tendon repairs, and have not found functional impairment due to the delay.

The partial-range active motion can be used for a spectrum of disorders and varying conditions. The partial-range motion can be in a range from mild to moderate flexion, not starting from full extension. This is used in patients with delayed flexor tendon repair with marked tension.

Summary and remarks

I use the partial-range active flexion protocol as an early framework of rehabilitation of flexor tendon injury and later for other injuries in patients not needing the help of a therapist. This framework simplifies my philosophy in preventing joint stiffness and formatting rehabilitation protocols. I use this framework to explain to the patient easily and to adjust the protocol details according to the specifics of each case regarding structures involved and treatment performed.

This approach may be particularly meaningful when therapists are unavailable. Worldwide, only a small percentage of patients with hand trauma have the luxury of therapist-assisted therapy. A simple, safe and efficient therapy framework is thus valuable and imperative for patients and surgeons in those regions. After observing my patients for more than 10 years and using this protocol and its extensions, I recommend this framework.

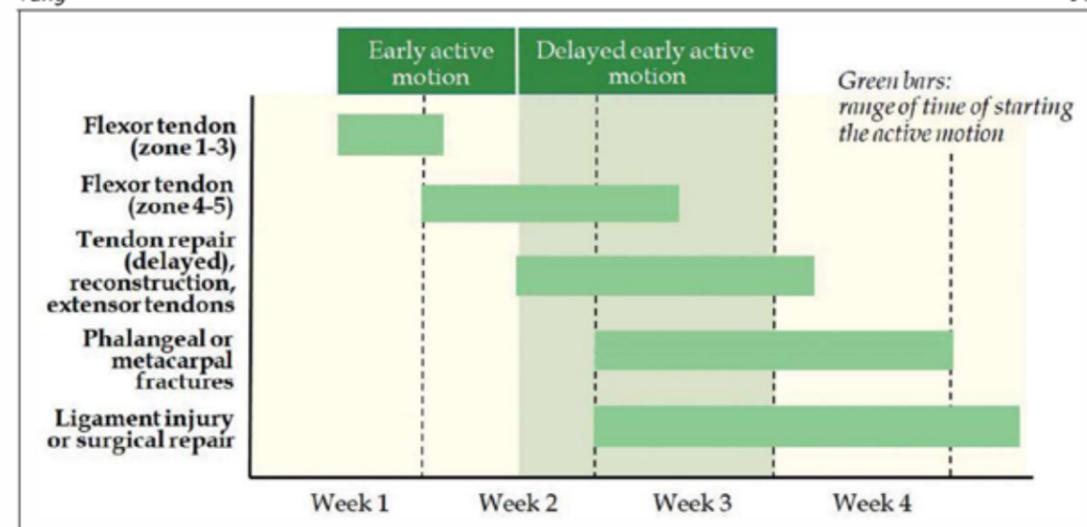


Figure 2. The ranges of starting the partial-range active motion are indicated with green bars, which differ in each category of disorders. The exact timing is decided within the timeframes with consideration of individual conditions.

This framework may also be useful to the therapists, likely serving as one general way to design and simplify motion exercise for the hand. In the past, some therapy protocols have been overly complicated, such as dynamic motion after extensor tendon repairs, which was found to be unnecessary. I have never used place and hold exercises. What I instruct the patient is natural hand motion, though some need assistance of the opposite hand. There are still complex therapy protocols in use that do not have supporting evidence. Natural design of the hand allows comfortable motion in many patients. Complex protocols can be replaced with much simpler ones. The simplification begins with recognizing some generalizable working principles. The partial-range active flexion may be one of them.

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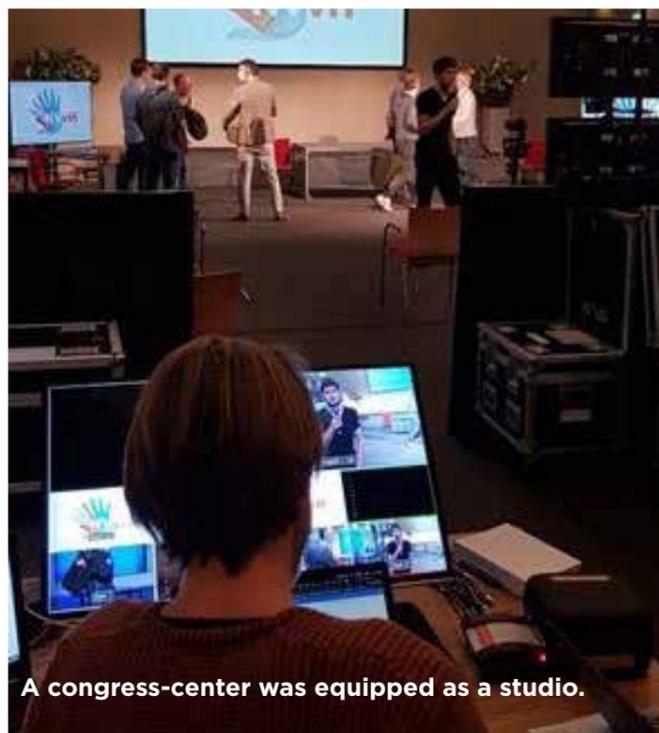
Acknowledgement: Permission to re-publish was given by the Editor of the JHS (European) and Author.

Member Society

DUTCH SOCIETY FOR SURGERY OF THE HAND

Our experience with the “new normal”: organizing scientific meetings during the Covid pandemic.

We would like to share our experience with online meetings which started in 2020. On 21 November 2020 the Dutch Society for Surgery of the Hand organized its first online congress. Due to the Covid pandemic the spring symposium had to be cancelled including the general assembly, which then preceded the autumn online congress.



A congress-center was equipped as a studio.

There are many ways to organize an online environment for such an event. We chose a broadcast option. A congress-center was equipped as a studio from where the congress was broadcasted to all the participants in a secured web-based environment.

The first hour was scheduled for the general assembly. With an online voting system the members could express their votes. Moreover, the secretary general Daniel Herren inspired the members with an informative lecture about FESSH, its possibilities, ambitions and future. After a short break, the symposium took off. The title of the congress was “Tips and Tricks in Hand surgery”. Topics such as scaphoid fractures, ICHOM, ulnar shortening, and 3D guided corrective osteotomies were presented.

All speakers but one presented from their homes with their own computers. Before the start of the talk they were positioned in an online waiting room. The week before this procedure was tested to enable smooth transitions between the speakers. However, we have learned that sometimes the internet connection was a little unstable. Therefore, we would prefer to tape the presentations in advance and then broadcast the presentations. Questions and answers would be live. We were of the opinion that an online congress should not take the whole day because this might be too exhausting for the participants. Therefore, the congress ended at 13h00.

Our Society is supported by sponsors. Therefore, virtual booths were created where sponsors could talk in person with the attending surgeons. Moreover, in between talks short videos covering surgical products were displayed.

In total 139 members of the Dutch Society for Surgery of the Hand participated in a very successful and inspiring online congress.

Niels Schep and Johan Vehof

Board members Dutch Society for Surgery of the Hand

NORWEGIAN SOCIETY FOR SURGERY OF THE HAND



The emblem of the Norwegian Society for Surgery of the Hand.

The history of hand surgery, and that of the Norwegian Society for Surgery of the Hand was recently published in the European Journal of Hand Surgery (Reigstad & Lied, JHS(Eur) 45(7))

Our Society hosts a Symposium each year at the yearly autumn Orthopaedic Meeting. With national Covid restrictions lifted (temporarily) in September 2021, many surgeons welcomed the opportunity to meet physically. The joy on many faces was plain to see after many cancelled meetings and webinars. This year we saw an increase in the number of visitors with 617 registered compared to the last meeting before the pandemic (October 2019, 573 registered). The meeting was planned as a hybrid meeting with the possibility for digital participation, both for presenters and audience. There were a few technical problems on the first day, but the impression was that this worked well and an additional 117 colleagues had signed up for digital participation. The Hand Surgery Symposium is also meant to be of interest for orthopaedic and plastic surgeons in training.

This year it was organized, and hosted by the Department for Plastic, Hand and Reconstructive Surgery from Haukeland University Hospital, Bergen. The topic was hand fractures and four interesting presentations were given before a summary and discussion. First, we heard about the treatment of fractures at the base of the first metacarpal. The presenter (Dr. Carlsson from Trondheim), presented from home via a web based solution and this worked very well.

Second, we heard from Dr. Bratberg (Oslo) who talked about metacarpal fractures in the remaining four rays. Thirdly, Dr. Hjortaa (Bergen) talked about the problematic PIP fracture-dislocations and lastly from the north of Norway, Dr. Valen Ek (Tromsø) talked about the distal phalangeal fractures, focusing on Seymour and mallet fractures. Dr. Strandenes (also from the Bergen unit) was moderator and had organized the symposium. The presenters showed many interesting cases during their talks which engaged the audience and there were many questions and comments during the final discussion.

Also of note for hand surgeons, there was an excellent symposium on elbow fractures with guest lecturer professor Lars Adolphsson from Linköping University, Sweden.

All in all it was a very enjoyable meeting and a reminder of how things were prior to the pandemic. Sadly, here in Norway and abroad, Covid cases are on the rise again and new restrictions are in place.



Moderator Dr. Eivind Strandenes and presenter Dr. Magnus Hjortaa during the discussion session. Both from Haukeland University Hospital, Bergen.

On behalf of the board of the Norwegian Society for Surgery of the Hand,
Rasmus D Thorkildsen
Hand- and Microsurgical Unit, Oslo University Hospital.

ASSOCIATION OF HAND SURGEONS OF THE PHILIPPINES (AHSP)

AHSP PARTICIPATES IN 4-COUNTRY SEMINAR

On 4 September 2021, the Association of Hand Surgeons of the Philippines (AHSP) participated in the "Joint Seminar Across Four Asian Nations". The virtual meeting was organized by Dr. Jin Bo Tang of China, a hand surgeon who is one of the foremost authorities on flexor tendon surgery.

Hand surgeons from China, Malaysia, Singapore and the Philippines attended the event. Topics ranging from fractures, infections, flap coverage, brachial plexus injury, replantation, arthritis, fingertip injury, compression neuropathies and WALANT surgeries were discussed.

Speakers from the AHSP and their respective topics were the following:

- Dr. Precious Grace Handog - Current Trends in the Management of Distal Radius Fractures
- Dr. Raymar Sibonga - WALANT for Radial Shaft Fracture Fixation
- Dr. Tristram Montales - Functional Free Muscle Transfer for Brachial Plexus Injuries
- Dr. John Hubert Pua - Post-Traumatic Arthritis of the Wrist

Joint Seminars Across Four Asian Nations

7:30-11:30 pm, Saturday
September 4, 2021

Agenda

Time	Presentation	Speaker
19:30-19:32	Short Welcome	
Session 1: The Chinese-speaking hand surgeons		
19:33-19:42	Invited presentation: Hand surgery in China and preferred techniques	Sebastian Von Unger
19:43-19:50	Changes in methods in repairing fingertip in our unit over 15 years and why	Jiang Chen
19:51-20:00	Difficult finger replantation and how we deal with them	Chao Chen
20:01-20:06	Use of the venous flaps and its transfer in a wide-awake setting	SG Xing
20:07-20:10	A possible way of rehabilitation for most hand trauma patients	Jin Bo Tang
20:11-20:16	Wide-awake surgical settings in Nanning and use in extensor tendons etc	Jin Bo Tang
20:17-20:30	Discussion	
Session 2: Malaysia		
20:31-20:40	SPECTR - Supraretinacular endoscopic carpal tunnel release	Teh Kok Kheng
20:41-20:50	Computer assisted surgical planning and patient specific surgical guides	Ranjit Singh Gill
20:51-21:00	Radial tunnel syndrome masquerading as tennis elbow - How I differentiate the two	Sharifah Roshdi
21:01-21:10	WALANT and lignocaine toxicity	Shalimar Abdullah
21:11-21:20	Wide-awake proximal nerve decompression surgery	Azmi Adhami Ahmad
21:21-21:30	Discussion	
Session 3: Singapore		
21:31-21:43	Hand infection, the rationale approach to dealing with it	Duncan McGrouther
21:44-21:57	Dorsal fracture dislocation of the PIPJ, challenges and solutions	Sandeep Sebastian
21:58-22:10	Painful 1 st CMCJ, what are the current solutions	Lim Beng Hu
22:11-22:20	Beyond wrist arthroscopy: new updates	Andrew Chin
22:20-22:30	Discussion	
Session 4: Philippines		
22:31-22:42	Current trends in the management of distal radius fractures	Precious Grace Handog
22:43-22:54	WALANT for radial shaft fracture fixation	Raymar Sibonga
22:55-23:06	Functional free muscle transfer for brachial plexus injuries	Tristram Montales
23:07-23:18	Post-traumatic arthritis of the wrist	John Hubert Pua
23:19-23:30	Discussion	

● Technically supported by KingSung Medical ●

With the success of the seminar, the first of its kind in Asia, plans to hold it on a regular basis are underway, as well as to include more Asian countries in the future

John Hubert C. Pua MD, MHPEd, FPOA
Association of Hand Surgeons of the
Philippines

On behalf of the board of the Norwegian Society
for Surgery of the Hand,

MEXICAN SOCIETY FOR SURGERY OF THE HAND

"It is not the strongest of the species that survives, nor the most intelligent that survives. It is the one that is most adaptable to change" - Charles Darwin.

Returning to face-to-face academic activities in a new global environment speaks of our ability to adapt.

Thus, from 9-11 December 2021, a combined face-to-face meeting of the 18th Congress of the Latin American Federation of Hand Surgery and the 41st Brazilian Congress of Hand Surgery was held in Rio de Janeiro. The organization led by Dr Jefferson Braga and the board of directors was impeccable. The academic level and the quality of the speakers as well as a large attendance met the objectives on which the FLACM diffusion of knowledge and multinational fraternity is based.

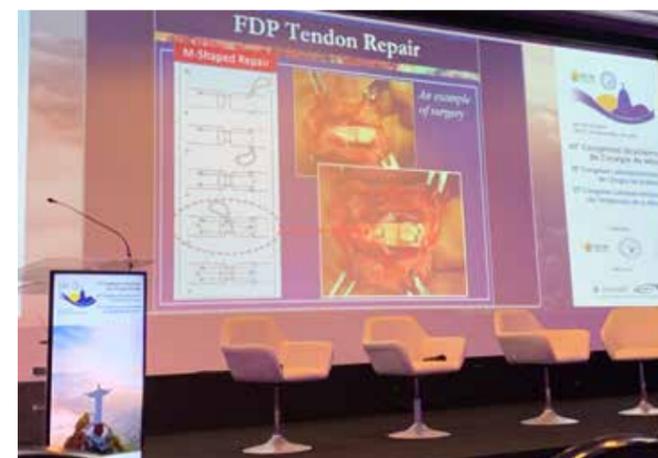
During this meeting a new board of directors was elected. The the great work done by Dr. Jefferson Braga as President and Dr. Carlos Fernandes as Secretary during the 2020-2021 period was recognised. Dr. Alejandro Espinosa assumed the new presidency for the period 2022-2023, Dr. Gerardo Zárate was elected Secretary and Dr. Sergio Daroda the new Vice President. This in-person meeting also made it easier to organize some of the planned activities and projects of FLACM.

Congratulations to the organizing committee for an outstanding meeting. It marked a new stage in the support and collaboration of all the countries that make up our Latin American Federation of Hand Surgery.

See you in London.

Alejandro Espinosa

SOCIEDAD MEXICANA DE CIRUGÍA DE LA MANO Y
MICROCIRUGÍA | espinosalejandro@gmail.com



ITALIAN SOCIETY FOR SURGERY OF THE HAND (SICM)

Living with Covid-19 for almost 2 years has radically changed the daily habits of the general population in Italy. Since summer 2020, social distancing measures and the use of masks have become mandatory to allow for safe reopening from lockdown. The extensive testing campaign undertaken on a regional basis to monitor the spread of the pandemic has made it possible to establish adequate restrictions on targeted areas, thus avoiding the need for other national lockdowns.

Healthcare workers were placed in special routine test programs in order to lower the infection rate among hospital staff. The high mortality rate, which sadly led to the extreme sacrifice of over 350 colleagues in the early stages of the pandemic, has thus also been reduced.

The most important step forward in the fight against Covid-19 was the authorization by the European Medicines Agency (EMA) of mRNA vaccines, on 21 December 2020. In Italy, the vaccination campaign officially started after the symbolic "Vaccine day" of 27 December 2020. Healthcare workers and over-80s were the first to receive the vaccine. In 2021, over 100 million doses were administered, followed by more than 19 million doses as a booster. Almost 90% of the population over 12 received the 2-doses vaccination. Since October 2021, the booster dose has been administered to over 65% of the population, who completed the first vaccination cycle 6 months earlier.

Consequently, in order to facilitate the reopening of most commercial, working and recreational activities, the Green Pass, a certificate showing that the holder has been vaccinated, tested negative or recovered from Covid-19, was gradually introduced. In August 2021, parallel to EU recommendations, it became mandatory for dining indoors in restaurants as well as to access cultural and sporting events and long-distance travel.

Although this issue has been a hot topic of debate among political parties and some popular movements of vaccine skeptics, the Italian population has generally responded with a great sense of collective responsibility and trust in the scientific community. The responsibility of citizens in following social distancing measures and wearing protective masks, as well as the strict policy of extensive vaccination, testing and contact tracing, are facilitating Italy to face the spread of the highly contagious "Omicron" variant of Covid-19 that is currently hitting the country.

The other key point of the response to Covid-19 lies in enhancing the capacity of the health services. This has been a weak point since the start of the pandemic. During to the peaks of incidence, many of the elective hospital activities have been suspended and this is still affecting most of the non-urgent hand cases, which were canceled and not yet rescheduled. The surgical activity for emergency hand cases is also undergoing some restrictions, due mainly to the shortage of anesthesiologists, who are intensively engaged in the Covid-19 ICUs. More and more cases are treated with WALANT or are delayed.

An overly cautious attitude towards the risks associated with hospitalization is still leading many patients to avoid seeking hospital care, especially following domestic accidents, or even to refuse surgery. Therefore, an increase in cases for revision surgery is likely to be expected, adding to the already demanding backlog of postponed non-urgent hand cases. Overall, the resulting backlog will keep the Italian hand surgeons busy for many years to come.

During 2021, President Luciano Cara led the Italian Society for Surgery of the Hand (SICM) through the difficult path of overcoming the Covid-19 restrictions towards the new normal. Although the programs of national and international travelling fellowships had to be suspended, many other educational activities took place in virtual mode throughout the year.

Starting from April 2020, the SICM Study Group on Wrist Disorders, chaired by Augusto Marcuzzi, has broadcast a biweekly webinar program on the most relevant topics of open and arthroscopic wrist surgery. The recordings of the webinars are available on the YouTube channel WristAcademy. (https://www.youtube.com/channel/UCN6omOGC_azYEf64AEw/videos)

The SICM Editorial Committee, chaired by Pierluigi Tos, produced a bi-weekly webinar program "Master-class Lectures", involving all SICM Presidents from 2000 onwards as speakers, as well as all members of the SICM Board as moderators (Figure 1). The recordings of the lectures are available on the SICM website (www.sicm.it). The SICM Editorial Committee has also published the first issue of the new online version of the Italian Journal of Hand Surgery "Chirurgia della Mano" on <https://www.rivista-chirurgia-mano.it>. It represents a milestone in the renewal project of the SICM official journal, which aims to a new fully digital format to celebrate the 60th anniversary of its foundation, established in 1963.



Figure 1. The SICM Master-class Lectures flyer depicting all SICM Presidents from 2000 onwards

The reopening of in-person SICM educational activities was marked by the "Basic wrist arthroscopy course" in July 2021, when the level of restrictions was still quite high.

The board of course directors (Andrea Atzei, Riccardo Luchetti and Ignazio Marcoccio) developed a special course format based on a combination of virtual and face-to-face (Cad Lab) sessions. Before the Cad Lab sessions, the lectures were recorded and made available on-demand for 1 month, followed by an online briefing 1 week before the course. The Cad Lab hands-on sessions were the only in-presence sessions, held in a single full-immersion day. Participants were instructed on wearing PPE's and keeping social distancing, particularly during lunch and coffee breaks. The dissection room of the ICLO Teaching and Research Center in Verona was equipped with specific ventilation systems to ensure high air exchange rate. Compliance with all safety requirements made it possible to maintain the same number of participants as in previous years. (Figure 2).



Figure 2. Participants of the SICM Basic wrist arthroscopy course at work in the facilities of the ICLO Teaching and Research Center in Verona.

The debriefing closing session of the course, was held 1 week later, again as a virtual session. The reduction in the level of restrictions and the first positive experiences with more regional meetings, strengthened the commitment of the SICM Executive Committee on the possibility of holding the annual SICM congress as an in-person meeting. The 59th SICM Congress, initially canceled in 2020, was then hosted by Michele Riccio in Ancona, in October 2021 and nicknamed as "The Restart Congress".

Although we missed the international colleagues who usually join our National Congress, the huge national attendance equaled the numbers of the largest hand meetings and rewarded the great efforts of the organizing committee of combining a great scientific program with friendly conviviality in the safest possible environment.

During the Congress, the elections for the renewal of the SICM Executive Board also took place (Figure 3). Michele Riccio was elected as the Vice-President. The 2020-21 President Luciano Cara passed the “Medallion” to the 2021-22 President, Alberto Lazzerini (Figure 3).



Figure 3. The ceremony of “Passage of the SICM Medallion”. President-Elect Alberto Lazzerini receives the Medallion from Immediate Past-President Luciano Cara. On the right-hand side, the Vice-President Michele Riccio.

During the last months of the year, other SICM hands-on courses were organized: the long-established advanced course on Elbow Disorders and Arthroplasties, run by Prospero Bigazzi and Enrico Carità, has been paired by a new format course “The 12 most common procedures in hand surgery”, an idea of Pierluigi Tos, in which classical techniques are compared to more modern ones, demonstrated by their masters. The foundation course “Anatomy and Surgery Cadaver Dissection Course” still continues its tradition with the 11th edition that will end in January 2022 (Figure 4).



Figure 4. Dr David Espen during a surgical demonstration to the participants of the “XI Anatomy and Surgery Cadaver Dissection Course”

This year ended sadly with the passing of Prof. Alessandro Caroli (1). He was known as a true gentleman, generous and helpful to everyone. He was one of the most influential personalities in the field of hand surgery in Italy, and was Past President of SICM (1986-1987).

He was well recognized around the world and honored as a “Pioneer of Hand Surgery” during the IFSSH Congress in 2010 in Seoul. He envisaged the idea to have a single European Federation of Hand Surgery formed by all National Societies, and consequently hosted the first European Congress of Hand Surgery in 1989 in Taranto, Italy (Figure 5).

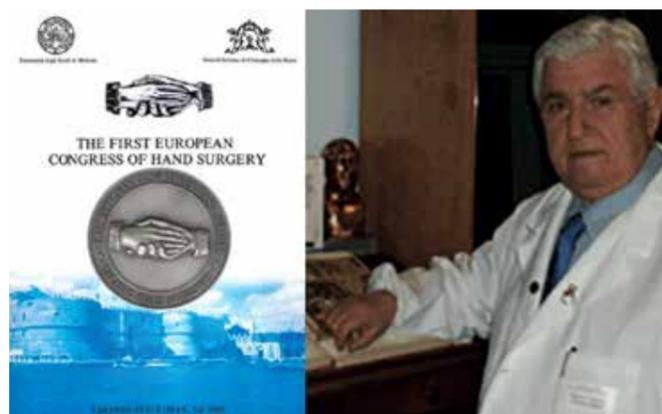


Figure 5. Professor Alessandro Caroli and the flyer of the first European Congress of Hand Surgery, which he hosted in 1989 in Taranto, Italy

His health conditions only allowed him to take a look at the newly printed volume of “Upper Limb Anatomy”, which he previously edited, along with Franco Bassetto, from his huge collection of lectures, notes and personal drawings ranging from topographical anatomy of the hand and upper limb, up to microscopic level. An English version will soon be available from the publisher website (<https://www.cgems.it/Cgems-Prodotti-Dettaglio/1083/anatomia-arto-superiore>).

Another noteworthy work has recently been published by Igor Rossello e Gianfranco Barcella: “The hand, from medicine to art: Renzo Mantero, master surgeon”. The book is dedicated to the many studies performed by Renzo Mantero of the hands of musicians, painters, sculptors, novelists, and on their artistic production and performance. Mantero is Past-President of SICM (1979-1981) and was also honored as “Pioneer of Hand Surgery” at the IFSSH Congress in 2010 in Seoul.

The book collects fascinating notes on Mantero’s studies of numerous masterpieces of world cultural heritage artwork depicting the hand, from Michelangelo’s painting in the Sistine Chapel, to Leonardo’s Last Supper, as well as the analysis of the hands of several musicians (from Paganini to Schumann). The book is available with English translation and numerous QR-code links for downloading additional pictures, videos and pdf files. (https://www.erga.it/erga/index.php?page=shop.product_details&flypage=bookshop-flypage.tpl&product_id=8350&category_id=707&manufacturer_id=855&keyword=mantero&option=com_virtuemart&Itemid=79&redirected=1&Itemid=79)

The end of 2021 marked a change in perception of the pandemic. If, initially, the virus was seen as a scourge that precautions and good luck could ward off, now living with the virus has become “the new normal”.

SICM is trying to adapt to the new normal with caution and go back to former habits safely.

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THE INTERNATIONAL FEDERATION OF SOCIETIES FOR SURGERY OF THE HAND
THE INTERNATIONAL FEDERATION OF SOCIETIES FOR HAND THERAPY

LONDON
2022

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ExCeL Conference Centre, London, UK



POLISH SOCIETY FOR SURGERY OF THE HAND (PSSH)

The year 2021 was a year like no other. The COVID-19 pandemic shifted the Polish Society for Surgery of the Hand's scientific, research and educational activities to more virtual interactions with its members, patients and the public. It involved the virtual participation with industry events, in knowledge sharing and widening professional contacts.

The PSSH launched its first-ever virtual conference which provided an important professional education opportunity for 200 participants, as well as many more signing up to receive recordings of the conference sessions. 30 Panellists and moderators delivered four study sessions (nerves, congenital problems, injuries, wrist and open subjects) with 22 presentations. The highlight of the conference was sessions delivered by Past Presidents of the PSSH: Władysław Manikowski, Leszek Romanowski, Andrzej Żyłuk, Tomasz Mazurek and Mariusz Bonczar. These sparked animated clinical practice debates. It is also noteworthy to mention the joint session with The Polish Society for Physiotherapy of the Hand, "Face to Face: How I treat carpal tunnel syndrome", and "How to become a hand surgeon" which were very well received. For the first time at our Congress, the Rheumatology Society presented recommendations for the treatment of osteoarthritis of the hand. The conference was wrapped up with a report on activities of FSSH and IFSSH.



Summer School of Hand Surgery

A pre-conference course, delivered in English, included 5 sessions with 28 lectures covering acute hand injuries, paediatric hand surgery, chronic and degenerative diseases, and implants in hand surgery. It was graced by international lecturers: Alexandru Georgescu (Romania) (honorary member of the PSSH), Leila Harhaus (Germany), PC Ho (Hong Kong), Goo Huyn Baek (South Korea), Daniel Herren (Switzerland) and Greg Packer (Great Britain).

During 2021 PSSH members had the opportunity to join a series of 6 webinars delivered by Polish and international speakers. These were very popular and will remain a constant element of our educational activities.



Summer School of Hand Surgery



Virtual conference of the Polish Society for Surgery of the Hand in Poznań

With pandemic restrictions easing the PSSH organised the 2nd edition of the Summer School of Hand Surgery. This immersive event was designed to allow collaboration in small groups, direct interactions with an instructor and learning from peers. 16 Participants were members in training.

2021 Marked the 50th anniversary of the Orthopaedic and Hand Surgery Clinic in Poznan: Kliniki Traumatologii, Ortopedii i Chirurgii Ręki Szpitala Ortopedyczno-Rehabilitacyjnego Szpitala Klinicznego im. W. Degi. These were celebrated by Prof. Leszek Romanowski and his team. It was here where The Polish Society for Surgery of the Hand was founded in 1988 by the first chairman Prof. Władysław Manikowski.

A Group of Polish hand surgeons also participated in the global event on 16 June 2021.: "Realistic cadaveric master-class", live from The Netherlands, Poland, Switzerland and United Kingdom and was organized by Medartis.

It was a busy year!



Virtual conference of the Polish Society for Surgery of the Hand in Poznań



50th Anniversary of the Orthopedic and Hand Surgery Clinic in Poznan



Pre-congress lab - Medartis

NEW IFSSH SPONSORSHIP:

Mid-term Course in Hand Surgery

The IFSSH Executive has approved a new initiative to promote the sharing of knowledge: the IFSSH Mid-Term Course in Hand Surgery.

Over a period of 3 days (minimum), hand surgery topics of interest will be discussed from basic principles to the recent trends.

We now invite applications from IFSSH member societies to host the course. The Mid-Term Course encourages further geographical representation by restricting applications to those regions not hosting the preceding or subsequent IFSSH triennial congress. With the 2022 Congress being held in London and the 2025 Congress in Washington, D.C., we invite applications from the South American and Asian-Pacific IFSSH societies.

The course is to be held at the mid-way time point between triennial congresses. The host society will be selected at the 2022 London Congress, with the Mid-Term Course to be held in late 2023/early 2024.

Applications are to be submitted by 6 March 2022. No late applications will be considered.

SUMMARY

1. The IFSSH will provide US\$20,000 towards an IFSSH Mid-term Course in Hand Surgery.
2. The course will be held between the two IFSSH congresses, within 15-20 months after the previous IFSSH congress.
3. Applications may only come from the societies in the geographic regions that are not hosting the Triennial Congresses immediately before and after this Mid-term Course.
4. The submission (maximal length of 4 pages) should be sent to the IFSSH ExCo at least three (3) months prior to the Triennial Congress which will precede the Mid-term Course.
5. The IFSSH Delegates' Council will vote to select the host society of the Mid-term IFSSH Course in Hand Surgery.
6. The Mid-term Course will ensure regular significant IFSSH activity in all regions on a rotating basis.

GUIDELINES

1. The IFSSH will support the organization of a Mid-term Course in Hand Surgery.
2. Over a period of 3 days (minimum), hand surgery topics of interest will be discussed from basic principles to the recent trends. Preferably the topics will be relevant to the hosting region.
3. The Course is to occur in the end of the first year or early half of the second year after one IFSSH congress. For example if the London Congress is in June, 2022 and the Washington congress is in March/April, 2025, the mid congress course will be from October to December of 2023 or in the early part of 2024 depending upon the local conditions and weather of the allocated region.
4. The Mid-term Course in Hand Surgery is to take place in regions other than those hosting the Triennial Congresses immediately before and after this Course. For example the 2022 Triennial Congress will be in London (Europe) and the 2025 Triennial Congress will be in Washington DC (North America including Central America). For the Mid-term Course, bids will be invited from the Asian-Pacific and South American regions. Subsequently, between 2025 and 2028, the European and South American regions will be eligible to bid for the Mid-term Course as the 2028 congress will be in Asia-Pacific.
5. The organization of the Course will be the responsibility of the local hand society that applies to host the course. The organizing team must work together and in close contact with the President and Secretary-General of the IFSSH on the general outline of the congress.
6. The IFSSH will provide a grant of US\$20,000 towards this initiative. This will be provided to the host society and all transactions are then to be organised by the local host society. Further revenue to cover the costs of the course should be raised by the local host society.
7. Ensuring nominal registration fees for delegates is the priority; finances should be budgeted to allow registration fees to remain low instead of generating a profit. The Course must be structured to encourage participation by hand surgery professionals from as broad a socioeconomic spectrum as possible.
8. Five to six eminent faculty can be invited from outside of the host society. Each faculty member will be expected to give no less than two major lectures to the course, and to participate in any symposiums and other activities. The host society may invite faculty from its own society. The IFSSH grant of \$20,000 may be used to assist the international travel expenses and hotel accommodation during the course for the invited faculty. The IFSSH urges \$2000-4000 to be provided to each faculty for international travel to the Course (dependent on the actual cost). Therefore, the international faculty will be traveling to the Course without burdening the host societies. The cost of travel and accommodation for faculty from the host society should be supported by the Course organizers without using this grant.
9. The course format will be hybrid, with on-site participation but also an online live stream option to allow involvement of as many registrants as possible.
10. The bid to host the Course may be made only by IFSSH Member Societies in good financial standing with the IFSSH.
11. Applications should be no more than 4-pages long. The application should include (1) why the host society wishes to host, (2) the chair and members of the organizing committee, (3) city and venue, (4) the topics the Course will cover, and also (5) main topics that international faculty will cover. The length of the Course should be at least three days, covering no less than 4 or 5 major topics of hand surgery. While it is important to have the outline of the topics

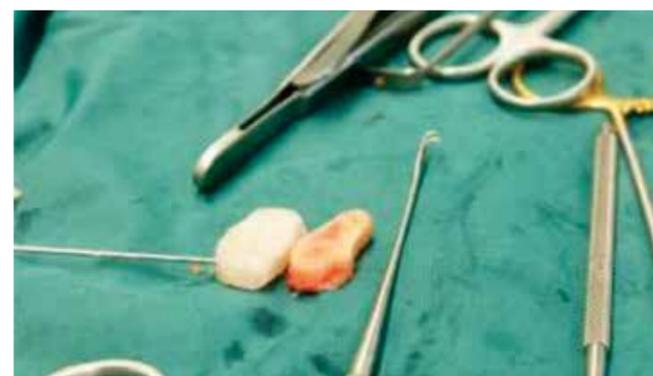
covered in the proposal and the course format, it is not necessary to include the names of the proposed faculty. The faculty can be confirmed after the bid to host is decided.

12. IFSSH Member Societies from the relevant regions should forward their application to host the Mid-term Course to the IFSSH Secretary-General at least three (3) months prior to the Triennial Congress which will precede the Mid-term Course.
13. Applications received by the IFSSH will be forwarded to the members of the Committee of Educational Sponsorship for evaluations and recommendation to the Delegates' Council. The CES recommendations will be provided at least one (1) month prior to the Triennial Congress at which voting will occur.
14. The IFSSH Delegates' Council will vote to select the host society of the Mid-term IFSSH Course in Hand Surgery.
15. The hosting hand society must be able to sign a contract accepting all financial responsibility for the Congress including possible loss. The contract must be executed and returned to the IFSSH Secretary-General within three (3) months of the date on which the Host Society bid was accepted by the Delegates' Council.
16. The IFSSH may provide the US\$20,000 at any time after selection, when requested by the host society.
17. If, for any reason, the course does not proceed or does not use the full US\$20,000, either the \$20,000 or any residual grant money is to be returned immediately to the IFSSH.
18. Once the country accepts to be the host of the Congress, the Organizing Committee Chair must send a written progress report to the Secretary General every three months. The report will be circulated among the Executive Committee.
19. Within ninety (90) days after the completion of the Congress, the host society will send a summary in English to the IFSSH Secretary-

General including: the final Mid-Term course program, the number of attendees and their nation of origin, and a final financial report. The summary will be presented at the next Delegates' Council meeting.

Report: IFSSH Educational Sponsorship-Romania

REGIONAL COURSE IN HAND SURGERY 2021 REPORT INTERNATIONAL COURSE ON COMPLEX WRIST RECONSTRUCTION - ADDRESSING AN UNMET NEED FOR THE ROMANIAN HAND SURGEONS



Wax fold and bone excision - Carpal reconstruction

Project Title: International Course on Complex Wrist Reconstruction -addressing an unmet need for the Romanian Hand Surgeons

Corresponding author: Dr. Veronica A. Romanescu

Implementation Partners for This Project: Oldenburg-Groningen Advanced Training Program in Reconstructive Microsurgery, Romanian Society for Surgery of the Hand (RSSH), Section of Anatomy at the Department of Neuroscience at the University Medical Center Groningen, The Netherlands, Medartis AG®, Stryker® and Ziehm Imaging/Orthoscan®, RSSH Romanian Society for Surgery of the Hand

Project Dates: October 14th-15th, 2021

Date of Report: December 2021

INTRODUCTION

Seven hand surgeons from Romania got the opportunity to train in cutting edge microsurgical reconstruction of the wrist.

Their participation was thankfully endorsed by an Educational Grant from the IFSSH while the course took place under the auspices of the Oldenburg-Groningen Advanced Training Program in Reconstructive Microsurgery, an internationally established training program organised and lead by Dr. Lucian Jiga and Dr. Zaher Jandali from the Department for Plastic, Aesthetic, Reconstructive and Hand Surgery from the Evangelic Hospital Oldenburg (Germany) and hosted by Prof. Janniko Georgiadis from the Section Anatomy & Medical Physiology of the University Medical Center Groningen (The Netherlands).

Dr. Heinz Bürger, the hand surgeon which popularised vascularised bone transfers from the femoral condyles in the world with his colleague Dr. Maria Anoshina, took part as co-directors at the course, bringing their invaluable contribution to the overall scientific level of this event.

This initiative had the full support of our emeritus professor Dr Alexandru Georgescu who found the idea well intended and with bright future for Romania's medical system development and Dr Zorin Crainiceanu, the Head of The Romanian Society for Surgery of the Hand (RSSH). The RSSH also helped the Romanian participants to be able to take part in this cadaver course by financially supplementing the necessary funds for each trainee.

The unconditional support from Medartis AG (Switzerland), Stryker Co. (Germany) and Ziehm Imaging/ Orthoscan (Germany) companies, which provided the surgical tools and X-Ray device, in spite of the difficult pandemic times, was instrumental for the success of the course and greatly appreciated.

PURPOSE

The main purpose of this course was to support and facilitate the access to valuable information for hand surgeons in Romania with advanced skills in hand surgery to a cutting edge technique and therefor raise the standard for the treatment of wrist advanced chronic pathologies with high debilitating potential in this country.

VENUE/FACULTY

During 14-15th of October 2021, the Advanced Training Course in Microsurgical Wrist Reconstruction took place in Groningen, The Netherlands. The course was part of the Oldenburg-Groningen Advanced Training Program in Reconstructive Microsurgery and was hosted by the Section of Anatomy at the Department of Neuroscience at the University Medical Center Groningen, The Netherlands.

The directors of the course were

- Dr Lucian P. Jiga - well-known plastic surgeon with main interest in hand in reconstructive surgery and the leading director of the course and of the program Oldenburg - Groningen Advanced Training Program in Reconstructive Microsurgery

- Dr Heinz Bürger - the person who popularized these techniques in Europe with a rich background in hand reconstruction with femoral condyle flap
- Dr Maria Anoshina- hand and microsurgeon lecturer and teacher with high knowledge and experience in scaphoid and lunate reconstruction with femoral condyle flap
- Dr Mike Ruettermann, a widely-known plastic surgeon, highly experienced in hand and reconstructive microsurgery.

Together they offered to the participants two days of intense training and unique learning experiences. The course places were supported by the IFSSH, via the Romanian Society for Surgery of the Hand and it also bore the endorsement of the World Society for Reconstructive Microsurgery (WSRM) and the European Federation of Societies for Microsurgery (EFSM).

It was an intensive hands-on course which focused on vascularized bone transfers for wrist reconstruction. It was attended by 7 Romanian plastic surgeons from 4 different parts of Romania through the IFSSH Educational Sponsorship Grant.

The training laboratory which is part of the Section of Anatomy at the Department of Neuroscience at the University Medical Center Groningen, The Netherlands, and directed by Janniko Georgiadis was a thoroughly specialized and up-to-date anatomy workroom. It fulfilled all the participants' needs for a proper specialized education.

COURSE STRUCTURE/EXERCISES

Principles of training I observed at the course

- intensive hands-on training with over 90% of the time spent at the course concentrated on performing surgery.
- efficient learning through "repetitive" teaching. Each practical model was performed by the same trainee at least two times during the course.

- one-to-one mentoring with close guidance provided during flap harvesting by the faculty, offering valuable "tips and tricks" in the best "how I do it" format.
- flexible program including the possibility to choose to perform other reconstruction options not included in the program at the end of the module for carpal bones reconstruction.
- state-of-the-art infrastructure with fresh-frozen anatomical specimens of pristine quality, enabling accurate learning of relevant anatomy.

The femoral condyle module was part of the Small Bones Reconstruction program and the training specimens used were high quality fresh frozen human tissues. The course was structured in two parts, first covering the theoretical sessions which offered valuable personal ideas and evidence based medical informations and the second one representing the cadaver dissection sessions conducted on prime preserved fresh frozen specimens during 2 days of intense training and learning.

On each table of dissection worked 2 participants. The human models were distributed as it follows: 1 lower limb per day and 1 upper limb per course for each table. The lab was fully equipped. The instruments used by each pair of participants were adequate for vascularized bone flap harvest and osteosynthesis: electrical saws on each table, K-wire pins, macro and microinstruments for dissection and harvest, proper screws for bone fixation, gloves and usable at discretion.

On day 1, the main focus was on scaphoid reconstruction after scaphoid fracture and non-union with medial and lateral femoral condyle flap. On the second day, the focus was on lunate reconstruction after Kienbock Disease with medial and lateral femoral condyle flap. The presented harvesting techniques and indications of usage were diverse on both days of training.

The full access on real time to X-rays (C-arm) for checking the osteosynthesis of the vascularized bone flap into the reconstructed carpal bones facilitated the training session and each participant could receive on spot tips and tricks from the directors to improve the surgical technique.

THEORETICAL SESSIONS

There were two theoretical sessions each day combined and interposed properly each with the practical session corresponding to each new technique for the best results. The subject of treatment were scaphoid reconstruction in the first day and lunate reconstruction on the second day, both treated with corticocancellous vascularized bone graft from femoral medial and lateral condyle.

Each theoretical part started with general considerations about the pathology treated (scaphoid and lunate), the harvest techniques (medial and lateral corticocancellous femoral condyle flap) described and tips and tricks from all the lecturers' personal vast experience.

At the end of the course, the participants had the possibility to choose another surgical technique to practice on the human models under direct supervision and with the help of the lecturers both as theoretical and practical. The vascularized fibula flap was the harvesting technique that most of the participants wanted to practise after the hand reconstruction part ended.

OVERALL FEEDBACK FROM PARTICIPANTS

Dr Nicolae Ghetu: The course on knee perforator was the most recent hands-on course I did participate in many years. It was new and exciting as I moved from the attending and lecturer position (which is what I do routinely in my assistant position in University) in a trainee position and I fully merged into the process.

With outstanding lecturers, Dr. Jiga, H Burger and M. Anoshina, the theoretical part was laid out in very precise details and the full armamentarium of clinical use was presented. Discussion and question sessions completed the picture and made the process simple and obvious even before moving to practical session.

The amazingly organized, fully-accessorized and perfect infrastructure supplied with high quality specimens made the practical sessions a delight and I fully went through all basic techniques and all variations I could think of with, I would say, rather acceptable results for a first-timer. The teams' approached and attending-trainee ratio was in our favor to make the passing of the knowledge and expertise straightforward. Fresh specimens were readily replaced as the smallest anatomical details that would hinder the operation was discovered.

The only suggestion I may add to the whole process is to probably try it on latex or vascular-specific otherwise prepared specimen, to increase the likelihood of identification of the specific pedicle. I grade the whole course the maximum possible and I am looking forward to attend more courses of the kind in the same location. My special thanks go to Dr. Romanescu who applied for the grant and therefore made it so much financially acceptable and to the International Federation of Society for Surgery of the Hand who supported the grant.

Dr Vlad Bloanca: During 14-15th of October 2021 I participated at the Advanced Training Course in Microsurgical Wrist Reconstruction in Groningen, The Netherlands. The course is a part of the Oldenburg-Groningen Advanced Training Program in Reconstructive Microsurgery. The directors of the course were Lucian P. Jiga, Heinz Burger and Maria Anoshina. The course was endorsed by the IFSSH, via the Romanian Society for Surgery of the Hand. It was an intensive hands-on course focused on vascularised bone transfers for wrist reconstruction.

The main goal was to obtain experience regarding the harvesting and reconstruction options with the medial and lateral femoral condyle for the semilunate and scaphoid bone. The course was structured in two parts, first covering the theoretical points of view of the instructors with valuable personal ideas and the second one – the cadaver dissection. The anatomy department at the Groningen University proved to be a great host with very good dissection conditions and well preserved cadavers. The data presented was clearly highlighted by the course instructors and very well demonstrated on the cadavers. This was of major importance from my personal point due to the lack of knowledge in this field in our department. In the future, wrist reconstruction will be a domain of interest for us. All round I am grateful for the opportunity to participate in such a high class course.

Dr. Laura Raducu: The course Advanced Training Program in Reconstructive Microsurgery held in Groningen was a great opportunity to learn innovative techniques on small bones of the hand. This involved microsurgical reconstruction of the scaphoid and lunate bones. It was perfectly organized and I am looking forward to take part in such an amazing training program lead by Dr. Lucian Jiga

Dr Veronica Romanescu: The course was a tremendous opportunity for me to learn a new surgical technique, to improve my microsurgical and dissection skills, to meet the people I admire for their work and to create new opportunities for my future career. This was the first time I attended a human fresh frozen training module and I was overwhelmed by the way we got trained by the senior doctors, the perfect preserved specimens and the fully equipped training laboratory. The high quality theoretical sessions together with the practical parts relied on the trainers' rich experience and evidenced based medicine.

The new informations gained were explicit and the lecturers were extremely available for questions of any kind, always supervising and correcting the mistakes we made practicing. My many thanks to Dr L. Jiga, H. Burger, M. Anoshina and M. Ruettermann for their work during two hardcore days of intense hands-on training, efficient learning and one-to one mentoring. Dr Andrei Coseriu: I really enjoyed the course.

I found it very useful and I consider it to have been very exciting for the both a novice and the more experienced surgeon. Although it lasted for only two days, I appreciated the emphasis on the practical and technical aspects. The techniques were thoroughly explained and exemplified which permitted us to learn and complete the procedures. I had the chance to discover and to practice a new and different approach for this challenging pathology that is rarely handled in our country.

HOW THE INFORMATION ATTAINED AT THE COURSE WILL HELP HAND SURGEONS IN ROMANIA TO PROMOTE FURTHER AND DEVELOP CARPAL RECONSTRUCTION IN MY COUNTRY

The strategy of promoting further and developing the carpal bones reconstruction in Romania through this course was a successful one. The participants were chosen as members of the biggest hand surgery centers in the country, from 4 different parts of Romania and therefore the information will be spread through the whole state over the coming years. Through the new surgical technique learned at this course, the surgeons who attended the training module will be able to reconstruct and rehabilitate carpal bones and joint surfaces. The pathologies able to be treated with vascularized lateral and medial femoral condyle free flap are diverse. The experience gained at the course will help our plastic surgeons expand the possibilities of bone reconstruction throughout the body.

CONCLUSIONS

In conclusion, the course was a success, the participants were enchanted by the quality of the fresh frozen specimens and the exclusive practical experience and theoretical informations gathered at the Course of Wrist Reconstruction. The learning curve was so efficient structured that, in my opinion, each of the participants received the proper knowledge to safely apply and further share the new surgical technique at home as soon as possible.



The TEAM - faculty and participants of the Wrist Reconstruction Course in Groningen - The Netherlands- Educational Sponsorship IFSSH 2021

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Editorial

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SAGE

Collected wisdom on hand surgery across the globe

This issue is certainly the heaviest issue that I have ever edited. It is not because of the amount of work of editing, but the weight of information carried in just over 100 pages. This issue conveys the densest information and honest and practical advice on important topics of hand surgery to readers and colleagues worldwide.

The articles in this issue are authored by 13 teams of respected investigators. Any single author who collaborated on these articles can be qualified as a chapter author or has been an author in an authoritative textbook in English or other languages. Therefore, the collective opinions and recommendations that they provide in this issue convey enormously strong messages to the hand surgeon community globally. Because most of these authors are the masters of word craftsmanship and highly experienced in writing, I have published their articles as they were collectively composed, except for editing for format, length and consistency among the articles. Readers will find carefully presented methods, evidence and recommendations crafted as precisely as possible that you can directly use in practice. In addition, you may find that their recommendations are much more balanced, diverse and likely more accurate than in textbook chapters written by one or more authors from a single locality.

The coauthors of each article were cautiously selected by the lead author, with consideration and inclusion of diverse experience from the different regions of the world. Such an issue of collective experience from groups of leading authorities is not often obtainable. The invitation and coordination of such efforts were not easy, even though this issue clearly does not contain all topics and all experts. This issue is plainly the only one with a diversity of authors covering a wide spectrum of hand disorders in recent decades.

The collaborative efforts of assembling experts in hand communities across the globe into journal publication were made in conjunction with the support of the leadership of International Federation for Societies for Surgery of the Hand (IFSSH) and the warm responses from the member societies of IFSSH after announcement of this special issue in

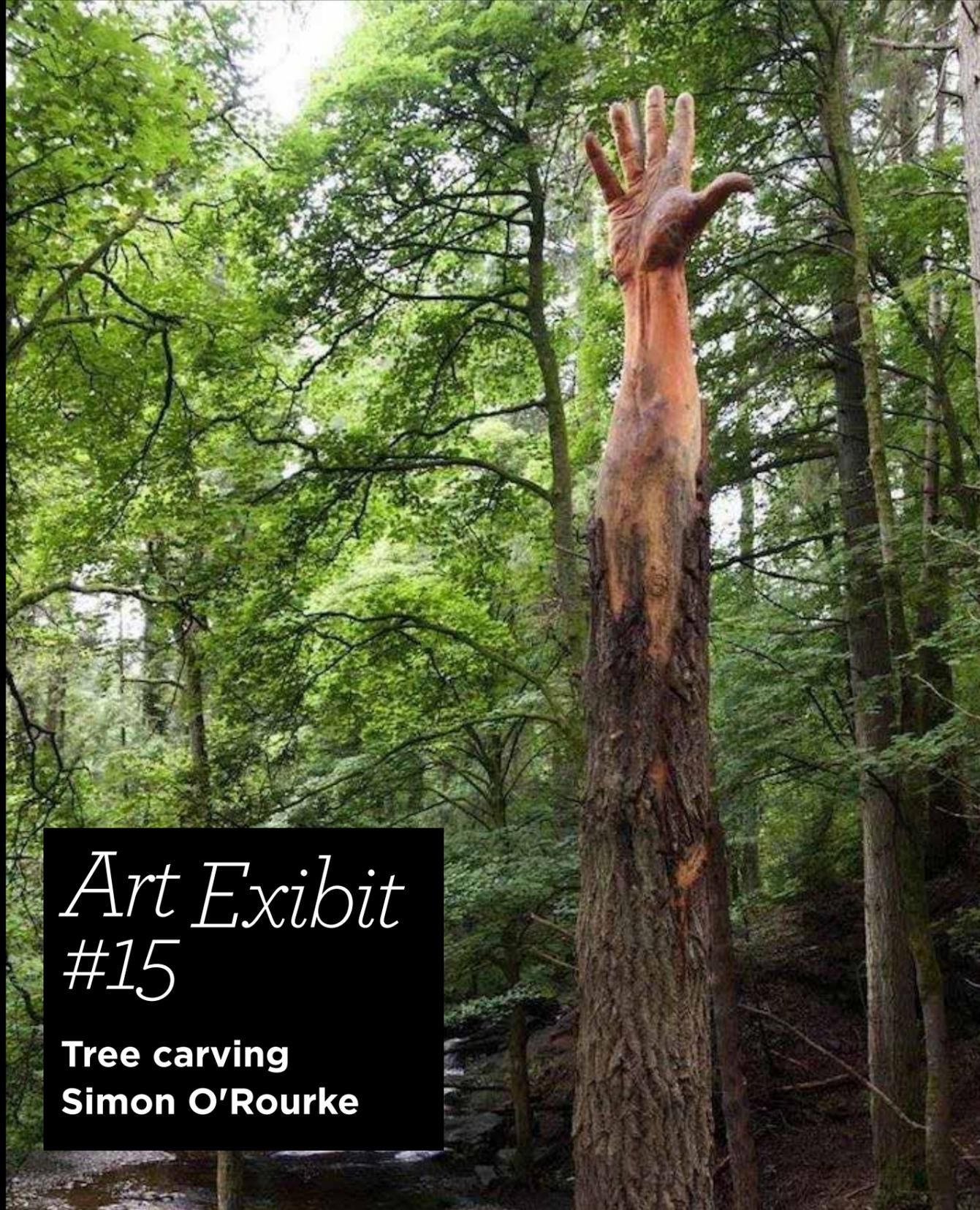
the delegates' meeting of 2020. Most of the IFSSH member societies are represented among the authors in this issue.

Here I express profound gratitude to the authors of this issue for their time, experience and contributions. I should specially thank the lead author of each article, who was invited by me to form a team of coauthors and organize the content. The assembling efforts for this issue started in the autumn of 2020. The lead authors were invited through mailings at different times in 2020, so that the completed articles would come to me in a staggered fashion in 2021. In my invitation letter, I stipulated that the coauthors should be from different countries (or regions) and be among the most trusted and leading figures in the topic under review. All lead authors accepted my invitation and responsibly produced high-quality review articles.

I should note that the first authors of all of the articles in this issue (except the final article on research, in which the lead author wanted to be listed last) are the authors who led the efforts. They played a pivotal role in developing each review. They supervised multiple rounds of writing and revisions before sending the articles to the Journal. The author teams are in fact scientific committees and the knowledge leaders in their respective areas.

The Journal of Hand Surgery (European Volume) takes great pride in organizing and publishing this special educational issue and is grateful for the warm responses received from the authors worldwide. As this is a unique collection of worldwide wisdom, I hope that this special issue lays a milestone for these important topics of hand surgery and provides a future reference to what has been achieved, what the current status is and what remains to be learned. I am proud to present this special issue for the Journal and the IFSSH at the time when hand surgeons worldwide are welcomed to London for the upcoming IFSSH congress.

Jin Bo Tang
Editor, IFSSH Special Issue



Art Exhibit #15

Tree carving
Simon O'Rourke

"Giant Hand of Vyrnwy" is carved into the formerly tallest tree in Wales which was damaged in a storm and destined to be felled. Artist Simon O'Rourke saw an opportunity to create a work of art. In his mind's eye he saw a giant hand, and the tree's last attempt to reach for the sky. The piece measures 50 feet tall. As you gaze upward, it begins to shed its bark and eventually becomes the smooth skin of the arm and ends with the gentle creases found in the palm and fingers. The sculpture is now near Lake Vyrnwy, a reservoir in Powys, Wales, where everyone can enjoy it.



IFSSH, IFSHT & FESSH COMBINED CONGRESS LONDON 2022

6-10 June 2022

ExCeL, London, UK

www.ifssh-ifsht2022.com

SAVE THE DATE!

If you would like to stay up to date regarding plans for next year's congress in London please sign up to our newsletter www.ifssh-ifsht2022.com

REGISTRATION IS OPEN

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ExCel London, UK

Assisztencia Congress Bureau
Szent István körút 7, 1055, Budapest

Website: www.ifssh-ifsht2022.com
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IFSSH, IFSHT & FESSH COMBINED CONGRESS LONDON 2022

6-10 June 2022

ExCeL, London, UK

<https://ifssh-ifsht2022.com>

This year the UK will host the joint congress of the International Federation of Societies for Surgery of the Hand with the International Federation of Societies for Hand Therapy and the Federation of European Societies for Surgery of the Hand, in London.

This is, of course, the most prestigious hand surgery event... on the planet!

The venue is the ExCeL Conference Centre in Docklands, East London, one of the venues for the London Olympics. Accommodation (and restaurants) for delegates in the immediate vicinity of ExCeL are plentiful and less expensive than in central London. If delegates decide that they would prefer to stay in central London, then transport options from the centre to ExCeL are good. There is the Docklands Light Railway and also an underground tube connection, due to be completed hopefully soon. There are also river boats departing from major London piers every 20 minutes...



Adjacent to the ExCeL is the Royal Victoria Dock with the London Cable Car. Enjoy amazing views and a unique ride across the River Thames. Linking The O2 and ExCeL, the gondolas will take you 90 metres into the air to experience spectacular views of London, from St Paul's Cathedral to the west, to the Olympic Park and Thames Barrier in the east (tickets from £4.00). A great way to explore the local area which is packed with things to visit: the Royal Naval College, the Cutty Sark, Greenwich Market and of course the Royal Observatory, home to Greenwich Mean Time.....and much more!

Scientific Program

There is a wide-ranging program of instructional lectures and courses with 614 invited talks.

On the Monday prior to the main congress, FESSH will run a training day.

There are two prestigious named IFSSH lectures: The Swanson lecture will be delivered by Professor Tim Davis who will present his work on scaphoid fractures. Presidential lecture

Will be delivered by Professor Gus McGrouther and will be on developments in treating hand infection.

The BSSH Douglas Lamb lecture will be given by Professor David Ring who will present on the importance of psychological factors in hand surgery.

There is also a keynote talk on Diversity to be given by Niki Moffat CBE, the first woman to make the rank of Brigadier in the British army.

There will be a core series of plenary instructional lectures, the topic for which is "Tendon Disorders of the Hand and Wrist". A publishing deal has been negotiated with Thieme to produce an accompanying book, which will be included in the registration fee for surgeons.

In addition, 1619 surgery and 179 therapy free papers have been submitted.

Those who have pre-accepted abstracts have been asked to prepare a 3 minute video.

Based on the video, the review panel will make a final decision on whether the presentation is accepted as a podium or an electronic presentation. Authors will be informed by 28 February.

Social Programme

We invite you to join us and take advantage of the many opportunities for learning, networking and socializing.

Monday, 6th June - Opening Ceremony & Welcome Reception

On the first evening of the Combined Congress, the British Society for Surgery of the Hand and the British Association of Hand Therapists have the pleasure to invite you to meet friends, connect with hand surgeons and therapists from all over the world after the long months of pandemic.

The Opening Ceremony will include induction of the IFSSH Pioneers in Hand Surgery and will continue with a reception with food and drinks in the exhibition area.



Wednesday, 8th June - Pub Night

There will be a less formal social event for the Wednesday evening with music, dancing, food and drink at the Revolution Bar ...



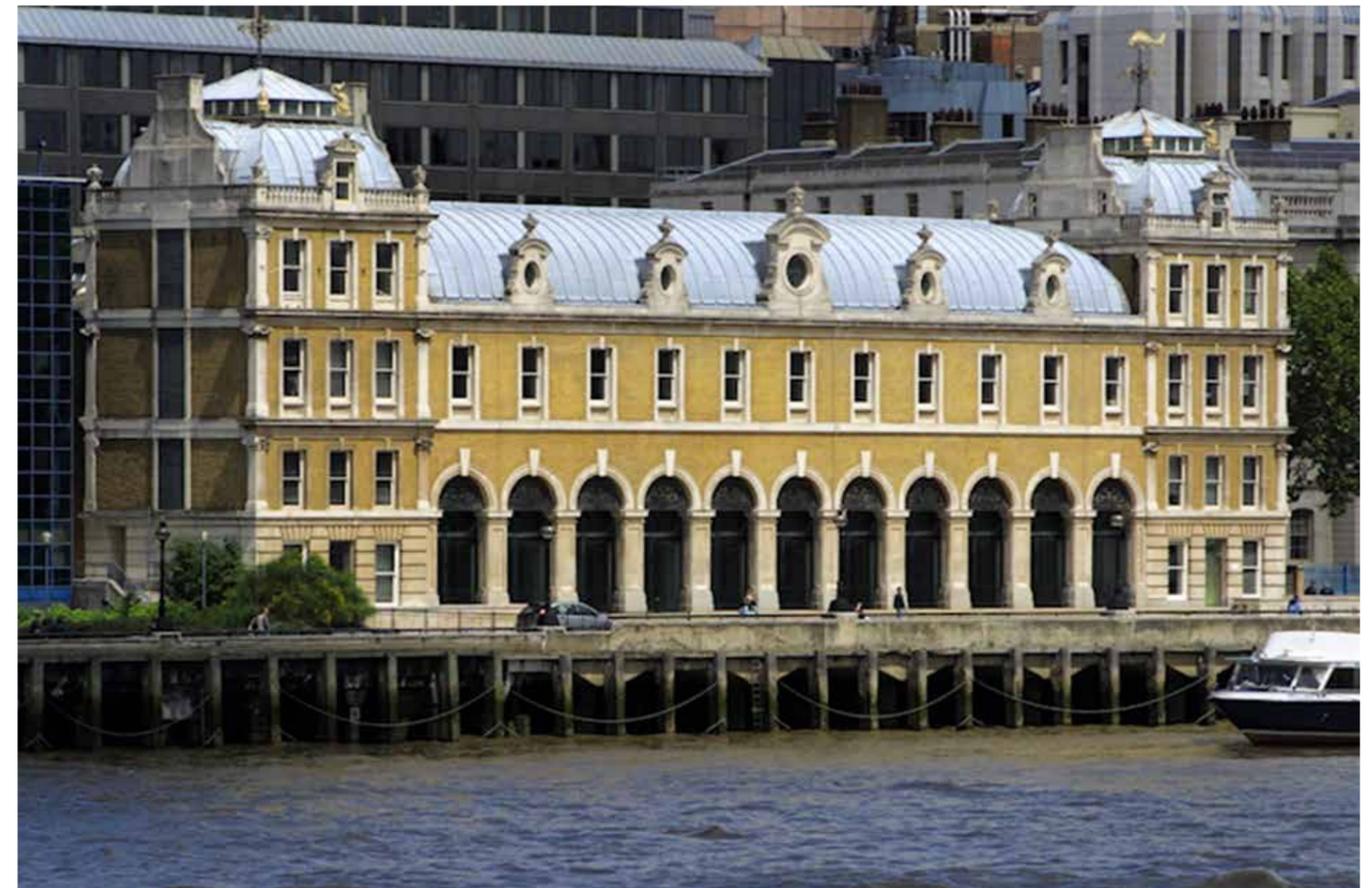
Price, including "finger-food" and drink vouchers:
 Before 1st March: £35 | After 1st March: £45

Thursday, 9th June - Congress Dinner

There will be a Gala Dinner on the Thursday evening. We have booked the Old Billingsgate Market for this. This is a fantastically characterful and historic venue, in a great position. Until 1982, this Victorian Grade II listed building was a world famous fish market. The Grand Hall (the former market floor) will hold the Congress Dinner.

There will be a sparkling wine and Summer cocktails reception, prior to dinner, served on the terrace with its stunning vista. The three-course seated dinner will be accompanied by inclusive wine, beer and soft drinks.

After dinner, until 2:00am, the dance floor beckons.....



We are looking into the possibility of riverboat transport from ExCeL to the venue.
 Maximum seating is 1800 but it is likely to be heavily subscribed – book early!

Prices:
 Before 1st March 2022: £150 | After 1st March 2022: £180

Global Training Survey

How DO we train? How SHOULD we train?

Trainees and established hand surgeons are invited to complete a short survey on their training for a chance to win free congress registration.

Join the training debate in London...

<https://www.surveymonkey.co.uk/r/TH96QJQ>

Join our mailing list

Mark your calendar now and stay tuned for more details....

Subscribe to our congress newsletter: <https://ifssh-ifsht2022.com/#signup>

To wet your appetites, here is a link to our cinematic "trailer" video....

https://www.dropbox.com/sh/z5h8hi1rpbnt62/AABmrmxbeBQ2sDL3RAyzNhw1a/videos?dl=0&preview=Promotional_video_Long.mp4&subfolder_nav_tracking=1

Registration

...is now open: <https://ifssh-ifsht2022.com/#registration>

Although we would prefer to welcome delegates in person, online rates are available for those outside Europe who are unable to travel but wish to participate.

Please visit the website to view the various rates for face-to-face and online registrations.
The "early bird" registration deadline is 1st March.

See you in London...!**David Shewring**

Consultant Hand Surgeon, University Hospital of Wales, Cardiff
Chair, Organising Committee IFSSH/IFSHT London 2022

**Jonathan Hobby**

Consultant Orthopaedic Hand Surgeon, North Hampshire Hospital, Basingstoke
Chair, Programme Committee IFSSH/IFSHT London 2022



6-10 JUNE 2022