NVvH & NVHT autumn congress
November 30, 2018
"Day of the PROMS and Dupuytren's disease"

ABSTRACTS

Proposes data set Dutch PROM Committee
By: Freek Lötters, physical therapist/hand therapist, PhD – Hand & Pols Revalidatie Nederland

ADVIESRAPPORT MEETINSTRUMENTEN EN PROMS BIJ HAND- EN POLSPROBLEMEN. Werkgroep PROMS, NVvH – NVHT

Aanleiding

Vanuit de Nederlandse Vereniging voor Handchirurgie (NVvH) en de Nederlandse Vereniging voor handtherapie (NVHT) bestond behoefte om te komen tot een set van (Patient Reported) Outcome Measurements (PROMs) die uniform door hun leden gebruikt kunnen worden bij het evalueren van behandelingen van patiënten met hand- en pols problemen. Om deze reden is een werkgroep samengesteld met leden van beide verenigingen om hierover een advies uit te brengen. De werkgroep heeft de volgende doelstelling geformuleerd: Het opstellen van een advies over het gebruik van meetinstrumenten en PROMs bij hand- en polsproblemen en op welke meetmomenten deze metingen afgenomen kunnen worden.

Totstandkoming

De werkgroep is begonnen met een uitgebreide inventarisatie van de internationaal gebruikte meetinstrumenten/PROMs en evaluatie van de klinimetrische eigenschappen hiervan. Als startpunt hiervoor is de International Classification of Functioning, Disability ad Health (ICF) (RIVM, 2002), waaruit ook de 'Brief Core Set for Hand' is voortgekomen (Kus ea. 2017). Daarnaast is gebruik gemaakt van de 'Clinical Assessment Recommendations' van de American Society of Handtherapists (ASHT, 2015), een internationale multidisciplinaire DELPHI studie naar meetinstrumenten binnen de handtherapie (van de Ven-Stevens ea. 2015) en een praktisch overzicht van veel gebruikte meetinstrumenten binnen de handtherapie en handrevalidatie (Lötters & Schreuders, 2017). Additionele informatie over meetinstrumenten is opgezocht via een literatuursearch in Pubmed (National Institutes of Health (NIH). Pubmed, 2018).

Binnen de inventarisatie van meetinstrumenten is onderscheid gemaakt in metingen die worden uitgevoerd door de behandelaar en metingen in de vorm van vragenlijsten. Bij ieder meetinstrument is gekeken naar de betrouwbaarheid, validiteit, responsiviteit,

interpreteerbaarheid en praktische bruikbaarheid van het betreffende instrument (van de Ven-Stevens, 2006, Lötters & Schreuders, 2017, Terwee ea. 2007). Een ander criterium dat de werkgroep heeft gehanteerd is dat de meting eenvoudig moet kunnen worden uitgevoerd door de behandelaar tijdens het behandelconsult.

Advies

De werkgroep adviseert de volgende basisset van meetinstrumenten: Categorie Geselecteerd Pijn: VAS-pijn (0-100) (Hjermstad ea. 2011); Mobiliteit: Goniometer (van Kooij ea. 2017); Kracht: JAMAR, Preston Pinch (Mathiowetz ea. 1984); Sensibiliteit: WEST (Jerosch-Herold, 2005); Oedeem: Circumferentie, figure of eight (Pellecchia, 2003); Activiteit en participatie: PRWHE-dlv (bij polsaandoeningen)(Videler & Schreuders, 20), MHQ-dlv (bij hand –, duim- en vingeraandoeningen)(Huijsmans ea. 2001); Ziekte specifieke vragenlijsten: BCTQ-dlv (CTS) (Smits ea. 2014), PRUNE-dlv (CubTS) (Derks ea. 1998); Patiënt specifieke functie vragenlijsten: PSK (bij enkelvoudig letsel)(Beurskens ea. 1999), COPM-dlv (bij uitgebreid letsel en complexe revalidatie) (Eijssen ea. 2005).

De werkgroep adviseert de volgende meetmomenten:

Het uitvoeren van een nulmeting voorafgaand aan een operatie of bij start van de conservatieve hand-therapeutische behandeling. Bij acute letsels vervalt deze nulmeting en zal de eerste meting direct na de operatie, bij de start van de (handtherapeutische) behandeling, worden uitgevoerd. Voor een aantal kleine operatieve ingrepen (zoals bv. release van een triggerfinger) en een groot deel van de conservatieve behandelingen (zoals bv. duimbasis artrose) is het advies om patiënten tot drie maanden te vervolgen. Vooruitgebreidere aandoeningen zoals pees-zenuwletsel, Dupuytren operaties, grotere pols operaties of prothesiologie is het advies om patiënten te evalueren tot twaalf maanden na de operatie. Hierbij kan worden overwogen om tevens na 6 maanden een evaluatie uit te voeren.

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Clinimetrics in hand conditions and how to apply PROMs

By: Lucelle van de Ven-Stevens, PhD, occupational therapist/hand therapist CHT-NL – Radboud UMC, Nijmegen/Policy officer Ergotherapie Nederland

Hand injuries ad hand disorders (i.e. "hand conditions") may have a large impact on the performance of people's daily life activities. It is important to evaluate not only body functions (impairments) but also a person's activities (limitations), participation (restrictions) ad environmental factors. The Brief ICF Core Set for Hand Conditions was developed to indicate which categories should be assessed. But which instruments should we use? What are the clinimetric properties?

A few years ago, a European Delphi study was performed as a first step to reach consensus on which instruments we should use. Experts of the European societies for Hand Therapy, Hand Surgery, ad Physical ad Rehabilitation Medicine were invited to participate in this Delphi study.

The response rate was 90%. After 3 rounds, 9 instruments were definitively selected that could be related to 4 ICF categories regarding body functions ad 5 ICF categories regarding activities ad participation. As to PROM's, still some discussion is needed to determine which questionnaire is most valid in different hand conditions.

The result of the Delphi study is an important first step in reaching consensus for clinical practice ad research in patients with hand conditions, enabling clinicians ad researchers to select the best available tests ad facilitate comparisons between clinical studies.

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How do PROMs affect my practice
By: Guus Vermeulen, plastic surgeon, MD, PhD – Xpert Clinic

How can we use PROMs in our daily practice. This is illustrated using examples which show the attendees how PROMs help me to improve the care I'm giving to my patients.

The Swedish experience: PROM's in the national quality registry for Hand Surgery HAKIR
By: Marianne Arner, plastic surgeon, MD, PhD – Karolinska Institute, Stockholm, Sweden

The Scandinavian national healthcare quality registries have brought about considerable improvements since their introduction in the 1970s. A registry for hand surgery called HAKIR was started in 2010 and now covers all seven hospital departments in Sweden, as well as two private units. Data on more than 90 000 operations, including about 60 000 patient questionnaires before and after surgery has been collected. Patient questionnaires include eight questions on hand symptoms, as well as the Quick DASH and are issued by a web-service. Several research projects studying PROM after hand surgical procedures are in progress.

Experiences from starting and running this new registry will be shared. Creating simple logistics for collecting data and careful planning before starting are important factors as well as starting small and simple. Continuous surveillance of data validity and coverage are crucial for long-term success. It is also important to consider different options for presenting data to users early on, since this will be requested very soon after starting up.

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Data collection completed, what's next?
By: Thomas Timmers, Interactive studios

A few best practices wil be shared out of the lessons we have learnt by implementing PROMs in over sixty hospitals. Whats the impact on your care process, who are involved in collecting PROMs, what to expect of the respons, what kind of data will it generate ad how can you use it. Future developments including PREMS, Value Based Health Care, integration in electronic patient file ad Computer Adaptive Testing (PROMIS) are reviewed.

PREMs; in hand surgery. Or: How to improve your treatment outcome in Dupuytren disease more then by correcting contractures better

By: Ruud Selles, Associate Professor, department of Rehabilitation Medicine and department of Plastic and Reconstructive Surgery and Hand Surgery, Erasmus MC Rotterdam.

In recent years, patient-reported experience measures (PREMs) have gained interest as an addition to outcomes as measured by clinicians (e.g. strength, range of motion, recurrence and complication rates) and patient-reported outcome measures (PROMs; e.g. DASH, MHQ). PREMs evaluate the experience of patients with the treatment context, evaluating concept such as communication skills of clinicians, nurses and other professionals, experienced empathy, the feeling of being understood and treated with dignity, or cleanliness and hygiene of facilities (e.g. Manary 2013).

While PREMS itself are not outcomes of treatment, many recent study in other fields indicate that PREM scores are related to PROMS and that improving the experience with the healthcare process will improve patient-reported outcomes. A recent review by Doyle et al (2013) showed that patient experience is consistently positively associated with patient safety and clinical effectiveness across a wide range of disease areas, study designs, settings, population groups and outcome measures. In this presentation, I will introduce the concept of PREMS, discuss the importance of measuring experiences and show data from our recent study (Poelstra et al. 2018). That examines the association between Dupuytren's' patient experiences with treatment process and surgical outcomes. I will argue that there may be much to gain in improving patient-reported outcomes in Dupuytren's by improving PREMS, potentially outweighing the effects of more common approaches to improving outcome such as improving surgical techniques to correct contractures even better.

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Defining an International Standard Set of Outcome Measures for Patients with Hand & Wrist conditions: Consensus of the International Consortium for Health Outcomes Measurement (ICHOM) Hand & Wrist Working Group.

By: Robbert Wouters, physical therapist/ hand therapist CHT-NL, Research Fellow Hand & Wrist at ICHOM, PhD Candidate, Erasmus MC - Handtherapie Nederland

To define a minimum Standard Set of outcome measures ad case-mix factors for monitoring, comparing ad improving health care for patients with hand & wrist conditions, with a focus on defining the outcomes that matter most to patients.

METHODS:

An international working group of patients, plastic & orthopedic hand surgeons, hand therapists ad researchers representing 12 countries was assembled to review existing literature ad practices for assessing outcomes of treatment for hand & wrist conditions, including surgery. A series of 3 teleconferences ad 1 break-out session were held up to know ad 5 additional teleconferences are scheduled, incorporating a modified Delphi process ad standardized methods of the International Consortium for Health Outcome Measurement (ICHOM).

RESULTS:

Until now, the working group reached consensus on the classification of 5 tracks; the thumb, wrist, finger, nerve ad Dupuytren track, with the distinction between 'regular' ad 'extended' tracks. For the thumb track the following outcome domains were considered 'essential' by the working group after consensus using the Delphi methods: Pain, Grip & Pinch strength, Patient Reported Hand Function/ Activities of daily life, Health-Related Quality of Life, Return to daily activities, Satisfaction, Complications/Revision ad Range of Motion (extended track only). Currently, measurement tools are discussed ad Delphi processes are running.

CONCLUSION:

A Standard Set of outcome measures for evaluating the care for patients with hand & wrist conditions that is appropriate for use across all treatments ad care settings globally is being developed. This Standard Set will provide meaningful, comparable, ad easy to interpret measures ready to implement in clinics ad/or registries globally, facilitating comparisons between treatments ad health professionals. We view this set as an initial step that, when combined with cost data, will facilitate value-based health care improvements in the treatment of patients with hand & wrist conditions.

Dupuytren's disease – What I learned in my practice

By: Professor McGrouther, Senior Consultant with the Department of Hand Surgery, Singapore General Hospital.

Lessons have been learned in several areas: the patient, the hand, surgical treatment and therapy, all of which provide insights in to the pathological process

The patient will seek information on causation and need to be reassured that occupation and social habits- alcohol, tobacco are unlikely to be the cause. Literature is contradictory.

Examination of the hand will reveal factors that will determine the outcome of treatment. The anatomy of the contracture is important as MPJ is predictably correctable but PIPJ is more difficult to correct and maintain.

Treatment modalities have increased with surgical options of fasciotomy and fasciectomy increased by needle fasciotomy and collagenase. There is no clear evidence of which is best and for which patients. There is no satisfactory classification of severity which makes treatment comparisons difficult. Choices are influenced by 'Downtime' in a highly pressurized occupational environment.

Therapy availability is always limited and must be directed at those patients who are slow to recover.

The pathology remains obscure although genetic studies have provided part of the picture, but why is aging important. There is no evidence that radical surgical excision produces better outcomes or lessens recurrence. Mechanotransduction plays a part in the generation of contracture and surgery should aim to interrupt lines of tension.

Conclusion: We need a different philosophy of treatment aiming to change the biomechanics of the hand.

Splinting ad Dupuytren; should we (not) do it?

By: Debbie Larson, BScOT, MSc Hand Therapy, Accredited Hand Therapist (BATH), Spire Norwich Hospital, Norwich, United Kingdom

Traditionally, post-operative splinting has been an important adjunct to surgical release of Dupuytren contracture to maintain surgical correction. However, research published in the past 5 years does not support post-operative splinting as an effective intervention. Three randomized controlled trials will be presented followed by case studies to illustrate when a splint may (or may not) be indicated ad what alternatives may be more effective to manage re-contracture.

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Recurrent Dupuytren's disease: what to do?

By: Professor McGrouther, Senior Consultant with the Department of Hand Surgery, Singapore General Hospital.

It is likely that Dupuytren's Disease cannot be 'cured' as the underlying genetic factors cannot be modified. Perhaps therefore Recurrent Dupuytren's Contracture is a more accurate focus and we should be considering contracture free interval rather than recurrence. There are many causes of contracture after Dupuytren's treatment and these will be considered in this presentation. The definition of recurrence is controversial, and splitting outcomes between recurrence and extension can cause confusion. Published results vary from near zero recurrence to 100% depending on criteria.

There may be residual flexion not released at the first operation and few surgeons measure passive digital range at the end of surgery. Complications of surgery such as haematoma, infection or skin necrosis can lead to scar contracture. Patient motivation with preoperative mobilization and a failure to maintain the correction by active and passive mobilization and splintage can leave the patient with a flexed pip joint.

The common pattern of recurrence is interesting. Whereas primary Dupuytren's contracture frequently flexes PIPJ and MPJ, but uncommonly DIPJ, the common pattern of recurrence is to see an extended MPJ and flexion at both interphalangeal joints- the intrinsic minus posture. And this is indeed the problem. Radical surgery chasing the deep cords in the palm is likely to result in loss of intrinsic function. The lumbrical and interossei have a tiny excursion in the intrinsic canals between the metacarpal heads and they readily become adherent in this region. There is even a potential for intrinsic denervation by deep palmar dissections. A digit with this configuration is unlikely to benefit from further surgery unless with the most vigorous and long lasting therapy support.

In undertaking surgery for recurrence the dissection is much more difficult as nerves and vessels have lost their surrounding adventitia and are encased in scar tissue which presents a significant hazard and risk of injury. There is a trend to undertake more limited treatments, Collagenase or needle fasciotomy for the milder cases or as a first line treatment and where surgery is required to perform dermo-lipo-fasciectomy (Logan's Operation) where surgery is required is this has the lowest recurrence rate in well reported publications.

Evidence in handtherapy with regards to conservative treatment of Dupuytren's

By: Debbie Larson, BScOT, MSc Hand Therapy, Accredited Hand Therapist (BATH), Spire Norwich Hospital, Norwich, United Kingdom

As studies refute the use of splinting following Dupuytren's surgery, preliminary evidence to support splinting ad compression as a conservative intervention for Dupuytren's contracture is growing. Four studies investigating the use of splinting, compression, passive exercise ad massage as non-operative treatments will be reviewed followed by discussions ad case studies exploring methods of splinting ad compression, appropriate patient selection ad behavioral models to encourage adherence.

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FREE PAPERS

Echogenicity of palmar Dupuytren nodules is not a predictor of disease progression in terms of increase in nodule size

By: Sanne Molenkamp, PhD candidate Plastic surgery, Department of Plastic Surgery - University Medical Center Groningen

Introduction: Activity of Dupuytren nodules may be measured with ultrasound. It has been suggested that early nodules appear hypo-echogenic, whereas older nodules appear iso- to hyper-echogenic. The aim of this study was to analyse whether echogenicity of Dupuytren nodules can be used to predict progression in terms of increase in nodule size.

Methods: Sonographic assessment of a Dupuytren nodule was performed in 91 patients participating in an existing longitudinal cohort study. Images were scored for echogenicity by two observers. Echogenicity was matched to growth one year later using linear regression analysis. Sensitivity analysis was performed using data of a year before ultrasound. The inter- and intra-observer reliability were calculated using the intra-class correlation coefficient (ICC).

Results: Hypo-echogenicity was not a predictor of growth one year later (Beta=-0.019, P=0.748). Sensitivity analysis looking at the year before sonographic measurement showed that hypo-echogenic nodules were more likely to have grown in the past year (Beta=0.173, P=0.011). However, these data were influenced by nodules that developed in the year before ultrasound.

The intra-observer reliability of measurement of echogenicity was excellent (ICC=0.996, 95% CI: 0.993‑0.998) and the inter-observer reliability was fairly good but imprecise (ICC=0.688, 95% CI: 0.329‑0.977).

Conclusions: Hypo-echogenicity is not a predictor of progression in terms of increase in nodule size measured by physical examination one year later. When using ultrasound to assess echogenicity of Dupuytren nodules, the use of a single observer leads to more consistent results. Further research is necessary to define the relation between echogenicity of Dupuytren nodules and disease activity.

Content validity and responsiveness of the Patient Specific Functional Scale (PSFS) in patients with Dupuytren's disease.

By: Yara van Kooij, physical therapist/hand therapist CHT-nl – Handtherapie Nederland

Standardized questionnaires may not capture all functional problems of patients with Dupuytren's disease. The Patient Specific Functional Scale (PSFS) enable patients to specify activities with which they have difficulty in daily life. This presentation will be about the content validity and responsiveness of the PSFS in patients with Dupuytren's disease. The International Classification of Function (ICF) scale is used to assess content validation. To compare the responsiveness to change, Cohen's D effect sizes were calculated. A total of 308 patients were analyzed. Content validity of the PSFS was adequate; the majority of the items could be classified in de 'activity and participation' dimension of the ICF. Patients mention a wide variety of functional problems and the majority of these activities are not covered on the standardized questionnaires like the MHQ, PRWHE, URAM or DASH. Findings in this study further indicate that the PSFS is more responsive to change compared to a standardized instrument like the MHQ in patients with Dupuytren's disease. We believe that outcome evaluation must have the focus on items that are meaningful and valuable to the individual patient using an individualized questionnaire like the PSFS.

Measurement properties of the Dutch URAM and its ability to measure change due to Dupuytren disease progression compared to the MHQ

By: Dieuwke Broekstra, Epidemiologist/ Human Movement Scientist, Department of Plastic Surgery - University Medical Center Groningen

OBJECTIVE: This study aimed: 1) to determine whether the Unité Rhumatologique des Affections de la Main (URAM) scale and Michigan Hand outcomes Questionnaire (MHQ) are able to detect change in hand function due to Dupuytren disease (DD) progression and to compare their abilities, 2) to determine the measurement properties of the Dutch URAM.

METHODS: Data of 233 DD patients participating in a cohort study were used. Concurrent validity (Spearman's ρ), reliability (Cronbach's alpha, ICC, SEM, SDC, Bland-Altman plot), responsiveness (Mann-Whitney U test, floor- or ceiling effects) and the interpretability (MIC) were calculated for both questionnaires, except for the reliability measures (ICC, SEM, SDC, Bland-Altman plot), that were not determined for the MHQ.

RESULTS: The URAM and MHQ were both able to distinguish those who did show disease progression from those who did not (resp. $U = 1252.5$, $p = 0.008$, and $U = 1086.0$, $p < 0.001$). Boundary effects were present in 13.9% for the URAM, and in 4.7% for the MHQ. For the URAM the ICC was 0.76 (95%CI: [0.64; 0.87]) and the SEM was 2.1 [1.7; 2.5], and the SDC was 5.7 [4.8; 7.1]. The internal consistency was high (Cronbach's alpha[95% CI] = 0.91 [0.88; 0.92] and 0.90 [0.87; 0.91]).

CONCLUSIONS: The URAM and MHQ are suitable to measure change in functional restrains due to Dupuytren disease progression on a group level. The MHQ suffers less from boundary effects than the URAM, but is less clinically applicable due to the length. The Dutch URAM has good measurement properties.

Universal 2 total wrist arthroplasty as a salvage procedure for failed BIAX total wrist arthroplasty

By: HJA Zijlker, MD, PhD fellow, Department of Plastic, Reconstructive and Hand Surgery, VU University Medical Center, Amsterdam

Purpose: Total wrist arthrodesis is a frequently used treatment for failed total wrist arthroplasty (TWA). However, salvaging the failed TWA by using a different type of implant may have obvious advantages. This study evaluates a large case series of patients with failed BIAX implants that were converted to Universal 2 implants.

Methods: Patients were retrospectively identified through a database search. The main indication for revision of the BIAX was disabling pain, generally caused by implant loosening. Outcome including complications of the Universal 2 implants was assessed by examination of medical records, X-rays, validated questionnaires and additional questions.

Results: Thirty-seven patients (40 wrists) were included in this study. Twenty-four (60%) Universal 2 implants remained in situ after a mean follow-up of 8.8 years and demonstrated moderate PRWHE (48/100) and QuickDASH (49/100) scores. By the time of our evaluation, the other 16 implants had been converted to a total wrist arthrodesis (n=14) or a third TWA (n=2) after a mean period of 5.5 years, mainly because of distal component loosening (n=7). Twenty-nine patients (78%) would choose the Universal 2 again as salvage procedure for their failed BIAX total wrist implant and would also recommend it to other patients facing a similar problem.

Conclusion: The Universal 2 total wrist implant replacing a failed BIAX implant showed a 60% survival rate after a mean follow-up of 8.8 years with a high patient satisfaction. This procedure effectively avoids or at least postpones a total wrist arthrodesis and can maintain wrist function after BIAX implant failure. However, in the end conversion to a total wrist arthrodesis seems inevitable in many patients.

Type of Study/Level of Evidence: Therapeutic/IV