

ONLINE ANNUAL CONGRESS OF PHYSICAL AND REHABILITATION MEDICINE

From Evidence to Practice

Online
Programme
and
Abstracts

FRIDAY 11 DECEMBER 2020

Koninklijke Belgische Vereniging voor Fysische Geneeskunde & Revalidatie
Société Royale Belge de Médecine Physique et de Réadaptation

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Dear Colleagues,

Together with the board members of the RBSPRM Society, we are pleased to welcome you to the first-ever **ONLINE Annual Congress of the Royal Belgian Society of Physical and Rehabilitation Medicine (RBSPRM)**, taking place on Friday 11 December 2020.

Much to our regret, it will not be possible to meet in person this year, but we are happy to be able to propose a top-notch online programme with state-of-the-art lectures by renowned national and international speakers. The main theme this year is: **'From Evidence to Practice'**.

The programme consists of 20-minute invited lectures and an update of national and international news and PMR. There will also be short 2-minute poster presentations. The ePosters will be made available on the website. At the end of each session there will be time for Q&A.

We hope you will enjoy this first virtual edition of the Annual Congress and remain,

Yours faithfully,

Gaëtane Stassijns
President of the RBSPRM

12.45	General Assembly - members only
13.00	Welcome Address Gaëtane Stassijns, President of the RBSPRM
	Session 1 - Prostheses and Robotics Chair: Kristine Oostra
13.10	The Microprocessor Controlled Knees for lower limb amputees Benoît Maertens, CHU de Liège
13.30	From new ideas to patient trials: Robotic leg prostheses in research Joost Geeroms, Brubotics
13.50	Q&A
14.00	Short Break
	Session 2 - EMG and Guidelines Chair: Thierry Deltombe
14.10	Early electrodiagnosis in the management of neonatal brachial plexus palsy: A systematic review Ruth van der Looven, UZ Gent
14.30	Short Poster Presentations
P1	A rare case of a true neurogenic thoracic outlet syndrome Evelien Gryspeerdt, UZ Leuven
P2	Asymmetrical polyradiculopathy following treatment with immune checkpoint inhibitors Robin De Wilde, UZ Gent
P3	Diabetic obturator neuropathy as a cause of sciatica: A case report Marie Hutsebaut & Frank-Robbrecht Duser, UZ Leuven
14.40	Q&A

	Session 3 - Joint and Tendon Chair: Jean-François Kaux
14.50	Update of the ESCEO algorithm for the management of osteoarthritis Jean-Yves Reginster, University of Liège, Belgium and King Saud University, Riyadh, Kingdom of Saudi Arabia
15.10	Q&A
15.15	Short Poster Presentations
P4	Long-term outcome of conservatively treated lower limb apophysitis in children and adolescents: A systematic review Maarten Rombauts, UZ Leuven
P5	Heterotopic ossifications in COVID-19 patients: A series of 4 cases Marie-Adeline Haustrate, CHU UCL Namur site Godinne
P6	An athletic adolescent with longstanding shin splits complaints Katrien Maes, UZ Gent
P7	13-year-old boy with progressive calf pain Yannick Bielen, UZ Leuven
P8	Proximal hamstring avulsion: A case report Stefanie Adam, UZ Antwerpen
P9	Modifiable lifestyle-related prognostic factors for the onset of chronic spinal pain: A systematic review of longitudinal studies Adrien Manderlier, Cliniques Universitaires Saint-Luc
P10	Jumping stump: A case report Maarten Rombauts, UZ Leuven
P11	Finger flexor tendon pulley injuries in rock climbing: Dynamic ultrasound Loïc Cuigniez, UZ Gent
15.35	Q&A
15.50	Short break

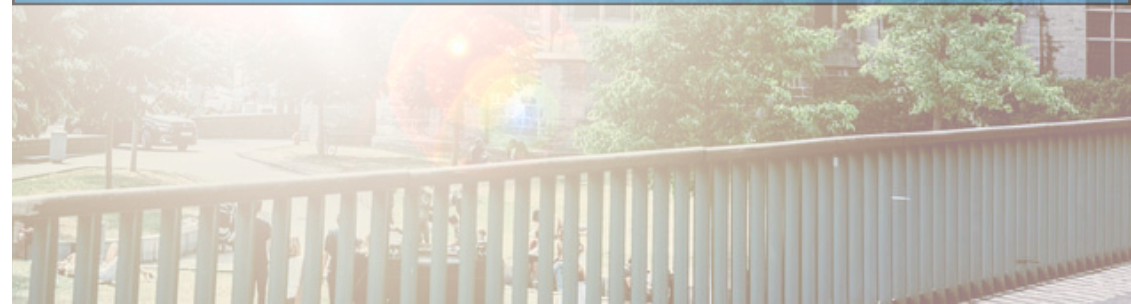
Session 4 – How to use EBM in daily practiceChair: **Carlotte Kiekens**

- 16.00 **How to read and critically assess a meta-analysis**
Olivier Bruyère, CHU de Liège
- 16.20 **Cochrane Rehabilitation REH-COVER (Rehabilitation - Covid-19 Evidence-based Response) action**
Stefano Negrini, Cochrane Rehabilitation and University 'La Statale', Milan, Italy
- 16.40 Q&A
- 16.50 **Short Poster Presentations**
- P12** **A systematic review of Clinical Practice Guidelines for persons with amputation - Identification of best evidence for rehabilitation to develop the WHO's Package of Interventions for Rehabilitation**
Arne Heyns, UZ Leuven
- P13** **COVID-19-related critical illness polyneuropathy and myopathy: Cohort study of 21 consecutive patients**
Liedewij Bogaert, UZ Leuven
- P14** **Study of two predictive tools of return-to-work chances among chronic low back pain patients**
Isaline Brouwers, Clinique St-Pierre, Ottignies
- P15** **Clinical multidomain assessment of COVID inpatients**
Arne Heyns, UZ Leuven
- P16** **mHealth App for follow-up of COVID-19 patients returning home after hospital discharge: An implementation study**
Marc Schiltz, Clinique St-Jean, Brussels
- P17** **Heterotopic calcification in a patient with an ICU stay for COVID-19**
Laurent Mirguet, Cliniques Universitaires de Bruxelles

- P18** **Evidence of sensorimotor rehabilitation in task-specific dystonia: A systematic review**
Katrien Raes, UZ Gent
- P19** **Role of physical and rehabilitation medicine in the aftermath of SARS-CoV-2 disease**
Céline Sauvart, CHU de Liège
- 17.10 Q&A
- Session 5 - News in PMR**
Chair: **Gaëtane Stassijns**
- 17.25 **Updates from the professional associations**
Patrick Linden
- 17.40 **Update UEMS/ PRM Section & ISPRM**
Carlotte Kiekens & Thierry Lejeune
- 17.55 **Closing Remarks**
President of the RBSRPM 2021 - 2022
- 18.00 End of the online Annual Congress of Physical and Rehabilitation Medicine



Abstracts of Poster Presentations



We describe the case of a 25-year-old woman with brachialgia and weakness of her left hand for ten years. She presents with pain and numbness in the left axillar region irradiating to the ulnar aspect of the forearm and hand. The pain exacerbates while swimming, mountain biking, long distance running and doing overhead activities. Clinical examination shows weakness and severe atrophy of the thenar muscles and intrinsic hand muscles. There is a hypoesthesia along the ulnar aspect of the forearm and hand. Electromyography shows a severe chronic lower trunk brachial plexopathy. The nerve conduction study shows a low amplitude of the medial cutaneous antebrachii nerve, sensory ulnar nerve and motor median nerve. Magnetic Resonance Imaging of the brachial plexus shows more fat and edema surrounding the left C8 and T1 nerve. X-Ray of the cervical spine shows a prominent transverse process of the seventh cervical vertebra, suggesting a True Neurogenic Thoracic Outlet Syndrome (TN-TOS) based on a prominent transverse process of the seventh cervical vertebra.

Discussion: True Neurogenic Thoracic Outlet Syndrome is rare, and diagnosing is challenging. The diagnosis rests on a combination of history, clinical examination and relevant technical examinations. Electromyography is the golden standard for diagnosing TN-TOS. Typically, nerve conduction studies show a significantly reduced amplitude in absolute value or in comparison with the unaffected side (> 50%) of the medial cutaneous antebrachii nerve, the sensory ulnar and the motor median response. The needle EMG shows chronically neurogenic motor units in the musculature of the inferior brachial plexus. T1 innervated musculature is generally more affected than C8 innervated musculature. An EMG should be followed by a standard cervical or thoracic X-ray and MRI of the brachial plexus to find the possible underlying cause. Considering the current evidence, it seems appropriate to start with a conservative treatment for at least six months. If conservative treatment failed, surgery can be considered. However, high quality evidence in favour of surgery is lacking.

Introduction: There is a new class of anti-tumor drugs, namely immune checkpoint inhibitors, with increased usage and eligibility of patients. The consequential inhibited release of T-cells with a disruption of the normal immunosurveillance and self-tolerance can result in adverse events affecting any tissue or organ system, including the central and peripheral nervous systems.

Results: We report a single case of a 62-year old man with metastatic renal cell carcinoma treated with a combination of immune checkpoint inhibitors (ipilimumab and nivolumab), who had an adverse event, more specifically, an acute asymmetrical polyradiculopathy. The patient presented with painful radiation to the upper leg and subsequently progressive paresis of the right limb in the following weeks. MRI demonstrated no compression. Electrodiagnostic testing showed acute denervation characteristics, such as fibrillations and positive sharp waves in muscles innervated by radices L2 to S1 on the right side. By discontinuation of the immunotherapy, there was a clinical improvement of muscle strength.

Discussion: Contrary to chemotherapy-induced neuropathy, immunotherapy-related neuropathy is a new entity that warrants studies of the predisposing mechanisms. Recent studies show that acute demyelination underlies most cases of immunotherapy-related neuropathy. They can also present as sensory neuropathy or axonal neuropathy, such as acute motor axonal neuropathy and sensory axonal neuropathy (AMSAN). Immune checkpoint inhibitors-associated neuropathies show a better clinical response following discontinuation of ICI agents or administration of corticosteroids compared to neuropathies due to cytotoxic chemotherapy.

Conclusion: This case report highlights first, the importance of timely diagnosis for starting necessary treatment or discontinuation of the provoking treatment, second, the use of ENMG in the differentiation of the underlying neuropathy, and finally, the different characteristics of immunotherapy-induced neuropathy.

Diabetic obturator neuropathy as a cause of sciatica: A case report

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A 73-year old male, known with chronic obstructive lung disease and diabetes mellitus type II presented at the emergency department with backpain irradiating to the anteromedial thigh since 2 days.

Neurological examination showed a paresis for hip flexion and hip adduction. Imaging of the lumbar spine showed no significant radicular compression. Electrodiagnostic testing five days after onset showed prolonged insertional activity in an obturator nerve innervated muscle on the left with only one remaining motor unit. Three weeks later, signs of abnormal spontaneous electrical activity were seen in 3 obturator nerve innervated muscles, confirming the diagnosis of an obturator mononeuropathy. (Table 1). Pelvic imaging showed denervation edema-like appearances in obturator nerve innervated muscles (Figure 1). As no neural entrapment or compression was shown on MRI of the pelvis and lumbar puncture was negative, the poorly controlled diabetes mellitus was identified as the most likely cause of the mononeuropathy. Management was focused on symptomatic treatment with painkillers and physiotherapy. Pain diminished significantly after five days, but strength only partially recuperated even after three months follow-up. Although rare, an obturator neuropathy should be included in the differential diagnosis of acute leg pain with paresis. This case report is the first description of a diabetic obturator mononeuropathy.

Figure 1: MRI pelvis 6-7 weeks after onset T2 SPAIR showed edema-like appearance of the long and short adductor muscle, the external obturator muscle (arrows).

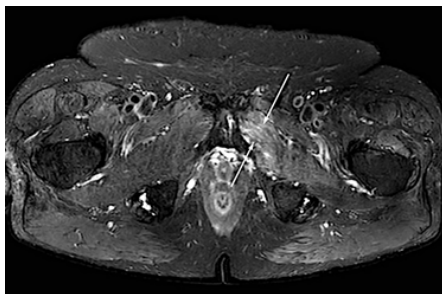


Table 1: overview of electrodiagnostic results

		19-11-2019 (5 days after onset)	10-12-2019 (26 days after onset)	21-01-2020 (68 days after onset)
m. adductor longus left	Rest	Prolonged insertional activity +	Fibrillation potentials +, positive sharp waves ++	Fibrillation potentials +, positive sharp waves ++
	Contraction	1 MUAP	0 MUAP's	0 MUAP's
	MUAP-analysis	Impossible	Impossible	Impossible
m. adductor longus right	Rest	Negative	N.E.	N.E.
	Contraction	Normal	N.E.	N.E.
	MUAP-analysis	Normal	N.E.	N.E.
m. adductor magnus left	Rest	N.E.	N.E.	Fibrillation potentials +, positive sharp waves +
	Contraction	N.E.	N.E.	Poor filling
	MUAP-analysis	N.E.	N.E.	Polyphasic +
m. pectineus left	Rest	N.E.	Fibrillation potentials ++, positive sharp waves ++	Fibrillation potentials +, positive sharp waves +
	Contraction	N.E.	No MUAP's	2 MUAP's
	MUAP-analysis	N.E.	Impossible	Polyphasic ++, instable, satellite potentials ++
m. gracilis left	Rest	N.E.	Positive sharp waves +	Fibrillation potentials +, positive sharp waves ++
	Contraction	N.E.	0 MUAP's	0 MUAP's
	MUAP-analysis	N.E.	Impossible	Impossible
m. iliopsoas left	Rest	N.E.	Negative	N.E.
	Contraction	N.E.	Normal	N.E.
	MUAP-analysis	N.E.	Normal	N.E.
m. rectus femoris left	Rest	Negative	Negative	N.E.
	Contraction	Normal	Poor	N.E.
	MUAP-analysis	Normal	Normal	N.E.
m. vastus medialis left	Rest	Negative	Negative	Negative
	Contraction	Normal	Intermediate	Poor
	MUAP-analysis	Normal	Normal	Normal
m. vastus lateralis left	Rest	Negative	Negative	Negative
	Contraction	Normal	Poor	Poor
	MUAP-analysis	Normal	Normal	Normal

Long-term outcome of conservatively treated lower limb apophysitis in children and adolescents: A systematic Review

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Introduction: It is widely thought that apophysitis runs a self-limiting course, correlating with gradual closure of the growth plate, which suggests that a conservative treatment is indicated. We summarise the long-term consequences of lower limb apophysitis after conservative treatment.

Materials and Methods: Studies had to include children or adolescents with a clinical diagnosis of apophysitis in the lower limb, more specifically Sever's disease, Osgood-Schlatter disease or Sinding-Larsen-Johansson disease, aged 8-18 years old, and with at least one of the following outcome measures: pain score, secondary structural changes, functional outcome, sport participation, return to sport, and recurrent or subsequent injury.

Results: Osgood-Schlatter disease related knee pain was present in 10-88% of cases, residual prominence of the tibial tuberosity which limited sport participation in 8-70% of cases, and generally lower functional outcome with a higher level of disability and recurrent injury in 8-32% of cases. Most patients returned to full activity participation with return to sport after 3 months up to more than a year, influenced when conservative treatment was started, i.e. the earlier the better. Regarding Sever's disease there was excellent pain relief after 1 year but without full recovery. 30% of patients still had pain when being active at their level with relapse in 15%. No studies regarding Sinding-Larsen-Johansson were found.

Conclusions: Apophysitis appears not to be the self-limiting condition we once thought, with people experiencing pain, secondary structural changes, a worse functional outcome and problems with return to sport after more than 1 year follow-up.

Heterotopic ossifications in CoVid-19 patients: A series of 4 cases

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Introduction: Heterotopic ossification (HO) is commonly described in patients after central (traumatic brain injuries and spinal cord injuries) and peripheral (Guillain-Barré syndrome) nervous system lesions. HO induces muscular and articular pain, joint ankylosis and loss of independence.

Presentation: We present 4 cases of patients suffering from SARS-CoV-2 infection (CoVid-19 disease) who necessitated prolonged mechanical ventilation presenting heterotopic ossifications in hips and shoulders. Diagnosis was suspected by clinical examinations and confirmed by medical imagery (bone scintigraphy and CT-scanner).

Discussion: HO is highly dependent on inflammation and phagocytic macrophages in soft tissues while SARS-CoV-2 may modulate macrophage-mediated events.(1,2) One may hypothesize that CoVid-19 global inflammation may play a role in HO genesis.

Conclusions: Since an early management of HO may limit the progression and maximizing function of the affected joint, we strongly recommend to search for HO in case of painful joint limitations in CoVid-19 patients. Further studies on the impact of invasive ventilation, hypoxia and metabolic disorders on the development of HO are required.

References:

1. Genêt F, Kulina I, Vaquette C, Torossian F, Millard S, Pettit A and al. Neurological heterotopic ossification following spinal cord injury is triggered by macrophage-mediated inflammation in muscle. J Pathol. 2015; 236:229–40. doi:10.1002/path.4519. Epub 2015 Mar 26.
2. Franco R, Rivas-Santisteban R, Serrano-Marin J, Rodriguez-Pérez A, Labandeira-Garcia J, Navarro G. SARS-CoV-2 as a factor to disbalance the renin-angiotensin system : a suspect in the case of exacerbated IL-6 production. J Immunol 2020 Jul 17. doi: 10.4049/jimmunol.2000642

An athletic adolescent with longstanding shin splits complaints

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A 20-year old very athletic man consulted the general hospital Sint-Lucas (Belgium) with six-month pain in the left lower leg. His discomfort increased with load and he had nocturnal pain. Clinical examination of the patient showed a strong palpatory pressure pain over the medial border of the tibia.

In most cases, involving an athletic young adolescent and pain in the lower leg, we think about shin splits along the tibia. When the pain is predominant at night and relieved by non-steroidal anti-inflammatory drugs (NSAIDs) we have to think of the diagnosis of osteoid osteoma. The first choice of imaging technique is standard radiography showing a radiolucent nidus with reactive sclerosis around it. When this is inconclusive, additional Computed Tomography scan (CT-scan), isotope bone scan or Magnetic Resonance Imaging (MRI) are recommended. The diagnosis is confirmed histologically with biopsy, but there is a substantial proportion of non-diagnostic biopsies. However clinical and imaging characteristics are usually sufficient for diagnosis. Therapy with NSAIDs makes the symptoms disappear quickly. This is often not a definitive treatment, because of the negative gastrointestinal and renal effects of long term NSAIDs. When conservative management fails, in case of persistent or invalidating pain, surgical excision is necessary. Open-en-bloc surgical resection or CT-guided percutaneous resection are the possible invasive techniques. Less invasive surgical techniques, CT-guided percutaneous radiofrequency ablation and CT-guided interstitial ablation, are the treatments of choice. These techniques are associated with fewer complications, shorter hospitalization, lower relapse rate and are more cost-effective.

13-year-old boy with progressive calf pain

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Introduction: A 13-year-old boy presented on the consultation of Physical Medicine and Rehabilitation with progressively increasing pain in the right calf after a bicycle fall six weeks earlier. An already performed ultrasound of the leg was negative.

Diagnosis: A stabbing, burning and tingling pain in the calf, occasional low back pain, positive Lasègue test, altered sense of touch in the painful region and absent Achilles reflex suggested a neurological problem at the lumbosacral spine. There were several red flags, namely the young age, severe pain at night, progressive pain with a non-mechanical component, prior trauma and clinical neurological abnormalities in a child. Because of these red flags imaging of the low back was performed. This showed an aneurysmal bone cyst with compression of nerve roots S1 and S2.

Background and Treatment: An aneurysmal bone cyst is a benign bone tumor consisting of several blood-filled cavities. Despite being benign, it can be aggressive and can occur secondary to a malignant tumor. There is disagreement in the literature about the optimal treatment. In this case a "piecemeal complete removal" was performed, after which the patient was almost fully complaint-free. An MR-scan three months postoperatively showed a recurrence, albeit a lot smaller. As there weren't new symptoms, follow-up with MR-scans was advised. MR-scans up to one year postoperatively showed no change.

Conclusions: A 13-year-old boy presented with progressive calf pain due to an aneurysmal bone cyst with compression of nerve roots. This case shows the importance of including the lower back in anamnesis and clinical examination in leg pain.

We present a traumatic proximal hamstring avulsion injury in a female triathlete. This type of injury is rather different from the well-known hamstring tear due to intense eccentric muscle action for decelerating the leg in sprinting or kicking activities. The proximal hamstring avulsion however, is due to exercises or falls involving movements of the knee and hip joints at the outer limits of their range of motion causing a steady or acute uncontrolled stretch on the hamstrings. Treatment of a proximal hamstring avulsion injury consists of physical therapy in all cases. Yet, some cases should be additionally treated with surgical repair, dependent on the number of hamstrings involved, the grade of tear and hamstring retraction, and the level of physical activity of the patient. The available literature on this topic is reviewed. We discuss the injury mechanism, the risk factors, (differential) diagnosis, treatment, complications and prognosis.

Introduction: Chronic spinal pain is the leading cause of disability worldwide, therefore preventive approaches are important. In the last 20 years, most efforts have focused on the identification and management of psychosocial risk factors ("yellow flags"). The literature on other factors, such as lifestyle, is sparse. The aim of this work is to identify modifiable lifestyle-related risk factors involved in the development of chronic spinal pain.

Materials and Methods: A systematic review of longitudinal studies published during the last two decades was conducted. Two reviewers screened databases for relevant studies. The QUIPS tool was used to assess the risk of bias. A qualitative meta-synthesis of relevant factors was performed.

Results: From 2825 unique records, 12 studies met the inclusion criteria (8 with a low risk of bias and 4 with a moderate risk of bias). For chronic low back pain we found moderate evidence for the involvement of high body weight, waist circumference, hip circumference and conflicting evidence for high body mass index (BMI) and physical activity. For chronic neck pain we found strong evidence for high BMI in women, moderate evidence for sleep disorders in women and conflicting evidence for high BMI in men and physical activity. For chronic back pain we found limited evidence for gardening/yard working in men and social presence at home. Effect sizes were small. Smoking had no significant effect.

Conclusions: Several modifiable lifestyle related factors were identified. Evidence is still sparse and there is a need for more studies.

Jumping stump: A case reportRombauts M.¹, Duinslaeger E.¹, Peers K.¹, Kiekens C.²¹Dept. of Physical and Rehabilitation Medicine, University Hospitals Leuven, Leuven, Belgium;²Spinal Unit, Montecatone Rehabilitation Institute, Imola, Italy

Introduction: The jumping stump phenomenon is a peripherally induced movement disorder due to peripheral nerve damage. We report on a very resistant case in which different treatment strategies were applied.

Materials and Methods: Case report of a 52-year old male with a below-the-knee amputation, experiencing very painful involuntary muscle contractions in the amputated extremity, and short overview of the current literature.

Results: Various drug treatments, including baclofen, diazepam, clonazepam, clonazepam, pramipexole and pregabalin, peroneal nerve block and prosthesis modifications were ineffective for our patient as was shown in literature. Botulinum toxin A treatment showed temporary decrease of symptoms but was not repeated due to financial reasons. In our case, tibial nerve neuroma had no ectopic trigger zone, so local treatment was not indicated. Surgical interventions, based on contraction location and muscle tension, were partially successful. Eventually, due to serious functional impact, a mid-thigh amputation was performed, with complete resolution of symptoms but recurrence later that year. Relapse was correlated with recurrence of local stump pain.

Conclusions: Treating this phenomenon remains challenging because pathophysiology is still not fully understood, and the available literature is limited. There is currently no definite solution, however botulinum toxin treatment is promising with temporary decrease of symptoms.

Finger flexor tendon pulley injuries in rock climbing: dynamic ultrasound

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Pulleys are bands of fibrous tissue wrapping around the flexor tendons of the fingers keeping the tendons close to the phalanges. Especially in forceful flexion of the fingers there is a great amount of force on these circular structures making pulleys vulnerable to injury. A flexor tendon pulley rupture is a typical injury in rock climbing. Frequently this occurs when a climber loses grip. In a substantial number of cases the little finger slips from the rock. A sudden loud audible pop is produced as a pulley of one of the remaining fingers, mostly the ring finger, ruptures. Diagnosis of a pulley rupture can be assumed clinically and confirmed by ultrasound or magnetic resonance imaging.

Ultrasound is not only a valuable tool to confirm the diagnosis by visualizing bowstringing, but also to evaluate the effectiveness of treatment using dynamic ultrasound to assess reduction in tendon-phalanx distance. The distance between the flexor tendon and phalanx is evaluated in extension and forced flexion at the pulleys comparing the injured finger with the adjacent finger.

We evaluated a case at our institution clinically and performed dynamic ultrasound showing increased tendon-phalanx distance at the A2 pulley of the fourth finger of the right hand in extension and flexion. Conservative therapy by the means of splinting was advised. Follow-up ultrasound at 6 weeks showed normalized tendon-phalanx distance in extension with thickening of the A2 pulley and increased tendon-phalanx distance in flexion. We expect further recovery with conservative treatment and normal tendon-phalanx distance in extension and flexion. We believe that performing dynamic ultrasound is essential in the diagnosis and is vital for follow-up so early reinjury can be avoided by restarting too soon.

A systematic review of Clinical Practice Guidelines for persons with amputation - Identification of best evidence for rehabilitation to develop the WHO's Package of Interventions for Rehabilitation

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Background: The identification of existing interventions for rehabilitation and related evidence presents a crucial step along the development of World Health Organization's (WHO) Package of Interventions for Rehabilitation (PIR). Amputation is one of the 20 health conditions for which a PIR is being developed. The methods for the identification have been developed by WHO Rehabilitation Programme and Cochrane Rehabilitation under the guidance of WHO's guideline review committee secretariat.

Aim of the Study: To report the results of the systematic search, topics of the recommendations, and current state of evidence of Clinical Practice Guidelines relevant to rehabilitation of people with amputations.

Methods: Systematic review of guidelines on amputation published from 2008 to 2018, selection of guidelines and extraction of recommendations relevant for rehabilitation. This paper is part of the "Best Evidence for Rehabilitation" (be4rehab) series, developed according to the methodology presented in the PIR introductory paper (Rauch, 2019).

Results: We finally included 4 guidelines. The median AGREE II rating was 49 (range 46-59). The Guidelines provide a total of 217 recommendations: 20 on assessments, 131 on interventions and 66 on service provision. Most recommendations concern pain management, education, pre- and postoperative management, and residual limb care. The strength of recommendation is generally weak to intermediate with only 5/217 recommendations having a strong recommendation. The level of evidence mostly compromises expert opinions (72.8%, 158/217) with only 6.9% (15/217) being provided by RCT's, systematic reviews or meta-analyses.

Conclusion: The field of amputation is well covered for recommended interventions, but the level of evidence is generally low and mostly based on expert opinion. Some important domains are not covered (e.g. vocation and education, sexual and/or intimate relationships, activities of daily living or leisure activities, education concerning socket/liner fitting, ...). There is also a lack of description of training/rehabilitation programs contents. This should be taken into account for the development of future guidelines.

P13

COVID-19-related Critical Illness Polyneuropathy and Myopathy: Cohort study of 21 consecutive patients

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Introduction: Many patients with COVID-19 require intensive care admission and long-stay. The latter is often associated with complications such as Critical Illness Polyneuropathy (CIP) and Critical illness Myopathy (CIM), characterized by muscular weakness and less favorable outcomes on short- and long-term basis. Crucial for this diagnosis are nerve conduction studies (NCS) and concentric needle electromyography (CN-EMG). To date, incidence and types of abnormalities on NCS and CN-EMG associated with COVID-19 are ill-known.

Aim: Description of NCS and CN-EMG in critically ill patients with COVID-19.

Materials and Methods: This retrospective, observational cohort study included 21 consecutive electrodiagnostic studies of patients with COVID-19 admitted to the ICU of University Hospitals Leuven, Belgium, from April 30 to June 4, 2020. All subjects were admitted for of 7 days or more and had muscular weakness in the post-acute phase.

Results: Of the 21 patients included, the mean age was 62 years. 71% were men. Mean duration of ICU admission was 35 days. CIP was confirmed in all but one patient (95%), in 6 (29%) this was associated with CIM. An additional classic polyneuropathy was diagnosed in 5 (24%) patients and 8 (38%) had peripheral nerve entrapment, mainly fibular nerve neuropathy with foot drop. Referral to specialized rehabilitation care was necessary in 16 (76%) patients.

Conclusions: NCS and CN-EMG of critically ill patients with COVID-19 show a high incidence of CIP, CIM and peripheral nerve entrapment. These findings have impact on care policy and also highlight the need for intensive rehabilitation.

P14

Study of two predictive tools of return-to-work chances among chronic low back pain patients

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Introduction: The aim of our study is to better target patients in need of vocational rehabilitation among those following our back school program. To achieve our purpose, we translated the SIMBO, a predictive tool developed in Germany, into French and tried to validate it by comparing the scores with the scores of Örebro MPSQ and by collecting the work status of the patients at 6 months.

Materials and Methods: First we did a thorough translation and back translation of the SIMBO, by consensus of 10 staff-members and physicians including two native German speakers. Then, we assessed all patients entering our back school program starting January 2020 with both the SIMBO and Örebro questionnaires. We run a Pearson correlation test between the two methods. In addition, work status was demanded at 0 and 6 months and the staff made a prediction.

Results: Preliminary results indicate a moderate correlation between SIMBO<32 (low risk group) and Örebro scores and a low correlation between SIMBO>32 (high risk group) and Örebro scores. Both methods give the same prediction in roughly 60% of the cases. Team prediction matches the questionnaires for approximatively 50% of the patients. The work status data-set at 6 months is still in progress.

Conclusions: Our early findings seem to support our hypothesis that there is a correlation between SIMBO and Örebro scores, validating the SIMBO as an alternative predictive tool for patients in need of vocational rehabilitation. Work status at 6 months will enable us to determine the accuracy of both tools.

Clinical multidomain assessment of COVID inpatients

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Introduction: COVID-19 created an unforeseen pandemic afflicting a great variety of patients with and without known comorbidities. As an unknown disease, it led to a high number of hospitalizations with scarce information on consequences on physical and mental health. Due to the rapid development, clinical care clearly received highest priority. A short and feasible multi domain screening assessment was created to evaluate hospitalized COVID-19 patients to determine their further needs for adequate care and rehabilitation.

Aim: To retrospectively investigate the physical, mental and functional health of patients where this assessment was performed.

Methods: A consensus was reached to assess the Hand grip strength, timed chair stand test (TCS), Barthel index, swallow screening, Nutritional Risk Screening 2002, HADS (Hospital Anxiety and Depression Scale) and MOCA (Montreal Cognitive Assessment). We assessed all patients admitted in ICU and all patients admitted on the non-ICU ward if they were 70 years or older, or if they were hospitalized for more than 1 week.

Results: We investigated 135 patients which were hospitalized in the university hospitals Leuven. About one third of the patients had elevated scores on the HADS. TCS and Hand grip strength was clearly diminished in this population, with more pronounced deficits in those hospitalized in ICU. MOCA results were aberrant in 68% of the patients.

Conclusion: These preliminary data show the importance of looking beyond the lung disease when assessing COVID-19 patients. Even with the limitations of a retrospective study, it is clear that there is an important impact on physical function, mental well-being and possibly on cognitive function.

mHealth App for follow-up of COVID-19 patients returning home after hospital discharge: An implementation study

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Introduction: For patients and health care professionals the COVID-19 pandemic generates many new challenges. Increased needs of follow-up and anxiety have been noted after hospital discharge for this novel disease. In order to address this and improve patient experience we implemented a mobile app follow-up for COVID-19 patients returning home.

Materials and Methods: Case series. All patients hospitalized in our institution for COVID-19 and ready for discharge between April 22nd and June 26th 2020 were contacted in order to be followed through a mobile health (mHealth) application once they had returned home. The aim of this study was to analyse the enrolment rate, duration of follow-up as well as qualitative and quantitative (NPS) satisfaction parameters of patients and physicians.

Results: 12 of 55 COVID-19 patients (average age 66,5 years) could be included for follow-up. Minimum duration for follow-up was two weeks. Preliminary satisfaction results from the participants and physicians were very favourable.

Conclusion: mHealth follow-up of patients returning home after a hospital stay is a promising new tool in different clinical pathways. Patient and HCP satisfaction were very high in our COVID-19 study. The main reasons for the low enrolment rate were either digital (lack of smartphone or too limited experience to use it effectively) or the presence of a language barrier. We believe that these barriers must and can be addressed to make this service available and a success with patients from diverse backgrounds.

Acknowledgements: The mobile application used in this report was provided at no cost for the patients or the hospital by MoveUp.

P17 **Heterotopic calcification in a patient with an ICU stay for COVID**

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Background: Heterotopic calcification is a frequent complication after traumatic brain injury, spinal cord injury or after total hip or knee replacement. To our best knowledge, it has not been reported yet after an ICU stay for COVID 19.

Case Presentation: We report the case of a 41 year-old patient who was referred in the neurorehabilitation unit for a post ICU tetraparesia. He rapidly developed several range of motion limitations of his right and left hips. He suffered from the left one during the night. He had no fever, no local inflammatory sign. At first an ultrasonography was performed on the left hip and showed a hypo-echogenous lesion in the peri-great trochanterian region compatible with an hematic collection. In addition, a Ct-scan of the region showed an heterotopic calcification of 80mm by 30mm on the posterior side of the hip cup going to the greater trochanter following the quadratus femoris and the adductors. A smaller lesion in the same area was found on the right side. An MRI was also performed and excluded any vascular or neurological compression. For these reasons, no surgery was performed. The patient was treated with NSAID for 7 days and physical therapy during his stay at the hospital. With these treatments, the patient didn't complain of a pain anymore at night, however the motion limitation of the left hip remained.

Conclusion: This case illustrates the possibility of heterotopic calcification in a patient admitted in an ICU for Covid 19. When facing a motion limitation (hip, knee, elbow...) in such patients, this cause should always be considered.

P18 **Evidence of sensorimotor rehabilitation in task-specific dystonia:
A systematic review**

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Task-specific dystonias are primary focal dystonias characterized by excessive muscle contractions producing abnormal painless postures during selective motor activities that often involve highly skilled, repetitive movements. We performed a systematic review on the role and effects of rehabilitation therapy in patients with task specific dystonia. We included 21 studies for qualitative synthesis. Most of the reports are small case series or single group pre-/post-test study design with a variability in the type of task-specific dystonia and the type of evaluated outcome measures. Based on the idea of excessive motor excitability and aberrant sensorimotor integration in the development of task-specific dystonia, sensorimotor retraining may hold promise. Although it appears that a number of task-specific dystonia patients, may sustain some improvement with sensorimotor rehabilitation therapy, no definitive conclusions can be drawn. More research in this field is needed, using standardized approaches and clearly defined outcome measures in larger cohorts of task-specific dystonia patients that are clinically and diagnostically well characterized.

Role of physical and rehabilitation medicine in the aftermath of SARS-CoV-2 disease

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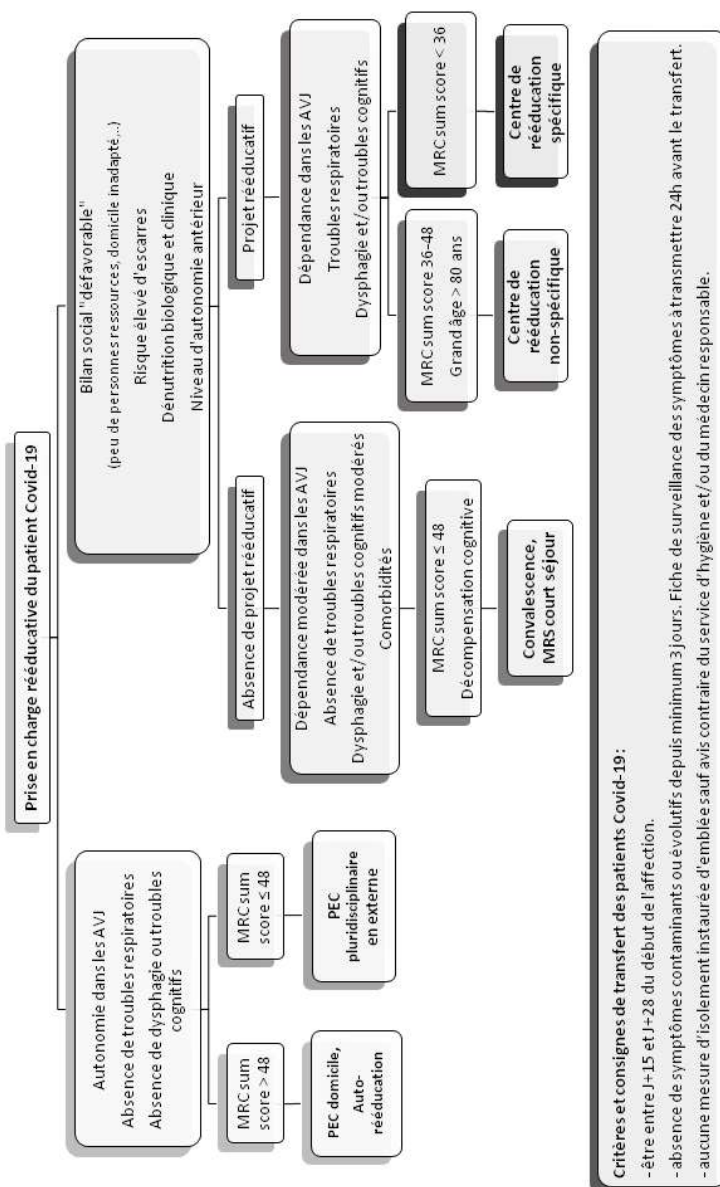
2020 will be remembered as the year of SARS-CoV-2 pandemic which confined most of the world's population at home. Rehabilitation units will have to face specific challenges to protect the vulnerable in-patients. Moreover, they must prepare for post-Covid-19 patients who might suffer from illness consequences or present a post intensive care syndrome secondary to the increased ICU length of stay. The purpose of this paper is to highlight the deficiencies of post-Covid-19 patients and suggest a decision algorithm to best match their needs.

Material and Methods: Narrative review using the bibliographic databases PubMed, Research Gate and the scientific watch of the SOFMER and bibliovid.

Conclusion: Covid-19 is a recent disease which first appeared in China. It is characterized by an ICU hospitalisation period which is longer than for common respiratory viral infections on the European continent. As of now, we don't have enough data to predict specific long-term impairments. However, based on the existing knowledge of ARDS and the information gathered on-field so far, we can assume that the Sars-CoV-2 pandemic will be responsible for a large number of ICU acquired weakness (ICUAW), post-ICU and psychomotor disadaptation syndrome. Swallow disorders can occur due to the extended orotracheal intubation. Breathing disorders will result both from the infection itself and the ICU stay, linked to the mechanical ventilation and the muscle weakness. Once they pass the acute stage, the patients will require specific, personalised and multidisciplinary treatment.

Évaluation du patient post Covid-19





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Quality of life and subjective burden of the informal caregivers in cerebral palsy - A Belgian observational study Lombardo C.^{1,2}, Aeby A.², Gierasimovicz-Fontana A.¹, Durand E.³

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This poster is not presented during the online congress, the ePoster is available on the website.

Purpose: Cerebral palsy (CP) affects 200 new-borns per year in Belgium. Adults with CP often experience difficulties accessing to appropriate medico-social structures, resulting in a significant involvement of informal caregivers. The purpose of this study was to analyse, through specific questionnaires, the quality of life (qol) and anxiety and/or depressive symptoms related to the burden of caregivers of children and adults with CP, taking into account socio-economic and environmental data.

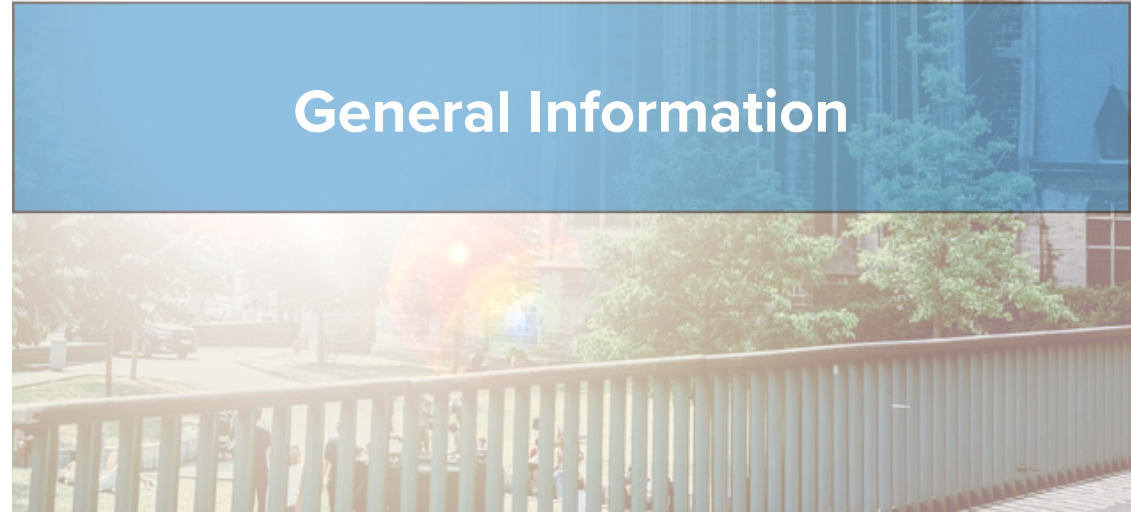
Methods: In this multi-centric qualitative observational study, informal caregivers of adults and children with CP were recruited. Semi-structured interviews were conducted, using an interview guide created specifically, based on literature, and four validated scales.

Results: Caregivers' health status was significantly lower than that of the general population, with a greater impact on the qol of children's caregivers, but presence of a mild burden in both populations. Correlations were found between scores of burden and the level of manual impairment of the patient. Isolation in caregiving tasks was also associated to higher burden.

Conclusion: Interventions for early detections of anxio-depressive symptoms and regular assessments of perceived qol among caregivers could play a role for improving health both of patients and their families.



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