Opinion/Feedback  The mechanisms that govern the application of noninvasive functional electrical stimulation (FES) have been delineated and clearly described in numerous evidenced-based research publications. The aim of this review is to summarize the primary, multi-system effects of noninvasive FES on the musculoskeletal system, the peripheral vascular system, and the central nervous systems. The presentation will relate these effects to multiple efficacious clinical studies in neuro-rehabilitation. The presentation will include discussion of the latest technological advancement in wearable FES systems and their critical role in achieving functional recovery following damage to the brain. The presentation will also offer an advanced practice model guided by the latest trend in the medical field focusing on patient-centered, personalized intervention.

Keywords  Functional electrical stimulation (FES); Mechanism of action; Wearable

Disclosure of interest  The author declares that he has no competing interest.

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C00259  

A randomised clinical trial comparing a new bed rails and lifting pole in lying-sit transfer in elderly patients

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Objective  A total of 27.6% of elderly people can not transfer from supine to sitting position. This driving plan consists on an anterior flexion and rotation of trunk to bring center of mass near the edge of bed.

With ageing, we observe modifications like more requests of upper limbs and less turn side.

The aim of this study is to compare influence of two assistive devices in the supine to sitting transfer: SAM, a new bed rails and the lifting pole.

Patients and methods  Patients more than 65 years, after consent signature, were lying in a medical bed with lifting pole or SAM after randomisation.

Each patient is asked to sit up in the edge of bed in two consecutive attempts. During the second transfer they were filmed. At the same time, a pressure sensor sheet, arranged between bottom and mattress, was recording the evolution of center of mass.

The main criterion is the success of the transfer. Secondary criterion is the time to do the transfer and the evolution of the center of mass.

Videos were looked by two persons to assess success or failure and time.

Results  Thirty-eight patients were included among which 19 used SAM. Seventeen patients made a successfully transfer with SAM against 13 with lifting pole. Time to do transfer was not significatively different with the two devices (12.5 s with SAM versus 12 s with lifting pole).

The center of mass evolved in previous for 90% of patients with SAM in particular during the first five seconds. While with the lifting pole, the center of mass evolved in posterior, in particular in patients who have failed.

Discussion/Conclusion  The ergonomic of the used device seems to influence the driving plan. The clinical evaluation thus has to accompany the research and development to help to find the best clinical and indicator criteria of assistive devices evaluations.

Keywords  Supine to sitting transfer; Elderly people; Driving plan; Assistive device

Disclosure of interest  The authors declare that they have no competing interest.

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C00258

Evaluation of seating intervention effect for patient at Toulouse University Hospital’s wheelchair seating clinic (WSC)

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Objective  The seating intervention for wheelchair users intends to achieve a comfortable and functional position and to limit the risk of complications due to long sitting period (pain and discomfort, skin disorders, orthopedic, respiratory, digestive diseases).

Few scientific papers about seating intervention in adults are published. The objective of the present study is to assess the objective and subjective effects of wheelchair seating intervention for patients at Toulouse University Hospital’s WSC.

Patients and methods  A cohort study of patients cared at the Toulouse University Hospital’s WSC between April 2014 and April 2016.

The main criterion is the evaluation of patient’s seating goal at 3 months of delivery of the equipment by the Goal Attainment Score (GAS). Other criterions are the evaluation of pain by visual analog scale (VAS), the comfort of the Assessment Tool Wheelchair Comfort (TAWC), the seating time (hours per day) and the sitting posture [Seated Postural Control Measure for Adults (SPCMA)].

Results  Preliminary results show with 40 patients (mean 51 years ± 17); among them, 11 have spinal cord injury, 7 stroke. The most common deficiency is tetraplegia (20). Seventeen patients have cognitive impairment. Thirty-six patients have at least one complication of postural control disorder with 19 painful patients. Twenty-six patients completed the positioning care. GAS at 3 months improve: median +2 (min: 0/max: 3). The SP/CMA improves: median +8/56 points (min: 0/max: 26). This improvement is statistically significant (Wilcoxon: P < 0.001). The pain and discomfort decreased significantly (EVA Wilcoxon: P = 0.005; TAWC Wilcoxon: P = 0.03). The sitting time is not modified.

Discussion/Conclusion  These preliminary results show the effectiveness of seating intervention on posture, pain and discomfort. Patient’s goals are the most often reached. These preliminary results show the efficiency of WSC for patients, not only to improve posture.

Keywords  Seating intervention; Wheelchair; Seated postural control; Comfort; Goal

Disclosure of interest  The authors declare that they have no competing interest.

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C00260

Improvement of walking abilities in femoral amputees with a distal weight bearing implant

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Objective  Following a transfemoral (TF) amputation, the ability to walk with a prosthesis is the main objective of rehabilitation. The achieved speed of walking is considered a determining factor to influence the driving plan. The clinical evaluation thus has to accompany the research and development to help to find the best clinical and indicator criteria of assistive devices evaluations.

Keywords  Seated Postural Control Measure for Adults (SPCMA).

Disclosure of interest  The authors declare that they have no competing interest.

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after placing a novel femoral implant that permits distal weight bearing of the residuum within a socket, adapted for distal load bearing.

Material and methods Thirty TF amputees with an amputee history of more than 12 months received an all-inside femoral implant, comprised of a femoral stem and a polyethylene spacer that allows distal load of the residuum within an adapted socket. The post-intervention follow-up period was 14 months. The applied rehabilitation schedule was our standard one, and no hardware changes were allowed during the follow-up period of 14 months, except for the adapted socket. Functionality was evaluated using the standard 2-minute walk test (2MWT) and the physiological cost index (PCI).

Results To date 19 patients (8 trauma, 8 vascular and 3 tumour patients) have finished the follow-up period. Prior to the implant placement the mean 2MWT covered distance was 103.16 m (SD = 33.03), and at 14 months was 124.95 m (SD = 39.22), (P = 0.00); an increase of 21.1%. The initial mean Visual Analogue Pain (VAS) score was 2.26 (SD = 2.76) and at 14 months 0.42 (SD = 0.77), (P < 0.005), a reduction of 81.4%. The PCI reduction (D heart rate/walking speed) was not statistically significant (P < 0.596). The observed increase of oxygen consumption in the vascular group (+ 20.15%) also indicates an additional beneficial general health improvement for this type of patients.

Discussion/Conclusion The results of the present study show significant improvements in walking speed, pain reduction, hours of prosthesis use and general health status at 14 months after having received a femoral distal load implant in patients of different etiology.

Keywords Transfemoral amputation; Femoral implant; Distal charge

Disclosure of interest The author declares that he has no competing interest.

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CO0261

Anomalies of the residual limb of the amputations of ballistic origin of lower limbs arising during the military crisis in Ivory Coast: Difficulty of coverage in equipment in the Center of Physical Rehabilitation “Vivre Debout”

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Objective The quality of the residual limb of the amputations in the consequences of a ballistic trauma often was compromised and limits the success of a good equipment for a satisfactory locomotive function. The objective of the study is to describe the various anomalies of the residual limb and their difficulty of equipment of the traumatic amputations by bal

Patients and methods A descriptive retrospective study concerned patients amputated of lower limbs in the consequences of a ballistic trauma during the military crisis in Ivory Coast from 2010 to 2012 and dealt in the center of equipment “Vivre Debout” in the Teacher Hospital of Yopougon.

Results A total of 245 patients amputated of lower limbs identified over the period among which 87 of the traumatic origin (31.51%). On 87 traumatic amputees, 39 were the fact of a gunshot wound (44.82%). The average age of the patients was of 31.96 years with extremes of 12 years and 69 years for the greater part men with a sex ratio of 9.1.

The seat of the amputations was transfemoral in 57.1% of the cases. We noted 32 cases of anomaly of the stub (82.14%) to type of disorder trophique (25 cases), of anomaly of length (15 cases) of orthopaedic disorders to type of steepness of hip and the knee 19 cases and 5 cases of névromes painful.

Thirty-five patients were able to be sailed with 34 cases of prescription of preliminary physiotherapy but 15 cases presented a cutaneous pathology bound to the maladjustment of the prosthesis.

Discussion/Conclusion Gunshot wounds in the armed conflicts are the fact of balls of big calibre with a decay of the limb. The surgical treatment being often made in emergency conditions has for priority objective the rescue of the life of the patient. This does not still bring the often junior surgeon to make a useful stub for a future equipment adapted to a locomotive quality function.

In conclusion, the residual limb of the ballistc amputees is the frequent seat of anomalies of stub with as consequence of the difficulties of equipment.

Keywords Amputation; Ballistic accident; Prosthesis; Residual limb

Disclosure of interest The authors declare that they have no competing interest.

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Posters

P001

Podiatric complications during a premature aging syndrome: Rare case

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Objective Premature aging syndromes are very rare and most often hereditary. Initially purely descriptive entities, these syndromes are now much better understood genetically and pathophysio logically and can now be classified according to the mechanisms involved. They often manifest as a pigmented skin dry, atrophic and sclerotic. There is no treatment for these conditions apart from that of their complications (frequent ulceration).

Observations Forty-five years of patient follow-up in dermatology for premature aging syndrome, addressed in our service for podiatric care.

Podiatric examination: shiny thin skin, sclerotic and pigmented; valgus big toe bilateral irreducible with claw toes; hyperkeratosis at the heads of the metatarsals and the outer edge of the metatarsal head of the big toe.

Optical podoscope: bilateral calcaneal varus more marked on the left; grade hollow foot 3 left and flat foot grade 1 right and no support on the toes left.

Static electronic podoscope: hyper-based at the forefoot: metatarsals heads bilaterally and in the left heel.

Our action was the prescription of custom orthopedic shoes, preceded by a preliminary preparation of the skin.

Discussion/Conclusion Aging syndrome is a very rare disease that has many complications. The impact on the feet is very annoying