PO08
Functional and socio-professional outcome of lower limb amputees: About 101 cases
Houda Migau Miled*, Hichem Ben Brahim, Yafa Hadj Hassine, Soumaya Boudokhane, Nesrine Abdelkafi, Aymen Haj Salah, Sana Salah, Anis Jellad, Zohra Ben Salah Frigh
Hôpital Fattouma Bourguiba Monastir, Médecine Physique, Monastir, Tunisia
* Corresponding author.
E-mail address: houdamigaw@hotmail.fr (H. Migau Miled)

Objective The objective of this study was to assess the functional and socio-professional future of lower limb-amputated patients.

Patients and methods This is a 3-year-registered study of lower limb-amputated patients, followed at the Physical Medicine and Rehabilitation department of the University Hospital of Monastir. The data analyzed were epidemiological, clinical, functional [the index of locomotion (ICL), the score “Special interest group of the amputee physician” (SIGAM)] and socio-professionals.

Results We collected 101 patients with a mean age of 61.3 years with a male predominance (75.2%). Sixteen patients (15.8%) were initially braced and 58 (57.4%) had their device during the study period. Seventy-two patients had a job and only 8 amputees initially had a driving license. Forty-nine patients (48.5%) were initially able to do their own toilet against by 52 (51.5%) needing a third person to help them. After fitting, the rates have improved from 74.13% to 82.75 as well as the walking ability. For the device-fitted patients, ICL averaged 28.09. The average value of the non-ICL fitted patients initially increased from 25.89 to 31.25 (at least 6 months after being fitted). The SIGAM score assessment for all fitted patients showed that the most represented clinical grade was grade B for 20 patients (27.02%), followed by the degree F for 18 patients (24.32%). Forty-five patients (44.5%) had a professional outplacement and one remained able to drive after fitting.

Discussion/Conclusion The device acquisition is a significant change for patients on the functional and professional levels. It allows a significant improvement in various activities of daily life with greater autonomy.

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

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PO09
Quality of Life and psychological profile of the Tunisian lower limb amputees
Houda Migau Miled*, Hichem Ben Brahim, Yafa Hadj Hassine, Soumaya Boudokhane, Nesrine Abdelkafi, Aymen Haj Salah, Sana Salah, Anis Jellad, Zohra Ben Salah Frigh
Hôpital Fattouma Bourguiba Monastir, Médecine Physique, Monastir, Tunisia
* Corresponding author.
E-mail address: houdamigaw@hotmail.fr (H. Migau Miled)

Objective Evaluate the quality of life and psychological state of the lower limb amputees.

Patients and methods Prospective study on the lower limb amputees followed at the Physical Medicine and Rehabilitation department of the University Hospital of Monastir. The variables analyzed were epidemiological, clinical with an assessment of the patients quality of life using the quality score of life “Short form 36” (SF_36) and a psychological evaluation by the score “Hospital Anxiety and Depression scale” (HAD).

Results Our population consisted of 101 patients, including 16 (15.8%) initially device-fitted and 58 (57.4%) who had their devices during the study period. The mean age was 61.3 years with a male predominance (75.2%). The vascular etiology of amputation was the most frequent (37.6%). The most represented level of amputation was transtibial (73.3%).

The SF36 physical component score was initially more affected than the mental component with an average score of 32.53 PCS and MCS average 36.84. These scores were significantly higher among patients initially fitted. For 74 device-fitted patients, we observed a statistically significant improvement after device MCS scores ($P=0.001$) and PCS ($P=0.002$), as well as all the elementary scores of the SF-36 score. This improvement was slightly higher for the mental component. The HAD-A score was 9.28 with the presence of anxiety symptoms in 47 patients (46.6%). The HAD-D score was 10.26. Forty-five patients (44.5%) had depressive symptoms. For the fitted patients there was a statistically significant difference between the HAD-A scores ($P=0.002$) and HAD-D ($P<0.001$) from the initial psychological state and those after being fitted.

Discussion/Conclusion The impairment of quality of life, anxiety and depression are very common among amputees. The device allows a statistically significant improvement of the HAD and the physical and mental components of the SF 36.

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

PO10
Tunisian lower limb amputees and satisfaction lower their prostheses:
About 74 cases
Houda Migau Miled*, Hichem Ben Brahim, Yafa Hadj Hassine, Soumaya Boudokhane, Nesrine Abdelkafi, Aymen Haj Salah, Sana Salah, Anis Jellad, Zohra Ben Salah Frigh
Hôpital Fattouma Bourguiba Monastir, Médecine Physique, Monastir, Tunisia
* Corresponding author.
E-mail address: houdamigaw@hotmail.fr (H. Migau Miled)

Objective Assess satisfaction of lower limb amputees towards their device.

Patients and methods Prospective study of device-fitted lower limb amputees followed at the Physical Medicine and Rehabilitation department at the University Hospital of Monastir. Epidemiological and clinical parameters were assessed with evaluation of the patients' satisfaction towards their prosthesis (survey on the satisfaction of patients with lower limb amputations towards their prosthesis) (SAT-PRO).

Results We collected 74 lower limb amputees including 16 initially fitted and 58 who had their device during the study period. The average age of our patients was 62 years with a male predominance. The most frequent amputation level was transtibial (71%). The average delay of the device compared to the surgery was 10.08 months with extremes of 2–60 months. The age of the device for already fitted patients averaged 22.73 months with a range of 1–360 months.

The calculated score of satisfaction towards the prosthesis (SAT-PRO) for fitted patients averaged 32.41 with extreme varying from 18 to 51. This assessment showed an improvement in the satisfaction of our prostheses patients. SAT-PRO means within this group was increased from 32.77 to 38.31 ($P=0.002$) with an average gain of 5.54 ± 5.38. Satisfaction towards the prosthesis was positively correlated with the urban origin, high socioeconomic level, the age less than 65 years, the absence of disease history, the traumatic etiology, the level of distal amputation, the age of the device, the quality of life and the functional outcome score (ICL).

Discussion/Conclusion The level of satisfaction of lower limb amputees towards the prosthesis depends on several factors. It is very important for its impact on the quality of life and autonomy.
Immediate in-brace correction with the new Lyon brace (ARTbrace): Results of 141 consecutive patients in accordance with SRS criteria for bracing studies
Jean Claude De Mauroy1*, Sophie Pourret2, Frédéric Barral2
1 Clinique du Parc, Médecine Orthopédique, Lyon, France
2 Groupe Lecante, Lyon, France
* Corresponding author.
E-mail address: demauroy@aol.com (J.C. De Mauroy)

Objective All recent studies confirm that the outcome of a conservative orthopaedic treatment depends on the compliance and the effectiveness of bracing measured by immediate in-brace curve correction. There is a correlation between immediate in-brace correction and biomechanical effectiveness of brace treatment in adolescent idiopathic scoliosis. In a retrospective analysis of the immediate in-brace correction obtained from a consecutive series of patients treated by the major SOSORT teams, the conclusion was that an effective brace should be able to achieve 50% correction of the curve magnitude, immediately after application. The aim of this study is to provide a point of comparison between different braces and study the factors determining the reduction.

Results
- The average initial Cobb angle was 28.61° (SD = 4.6, range: 25°–40°).
- The average in-brace correction (percent) was 72.5% (SD = 21.9, range: 29°–140%).
- At the thoracic level (n = 98).
  - The average initial Cobb angle was 30.33° (SD = 4.6, range: 25°–40°).
  - The average in-brace Cobb angle was 10.04° (SD = 7.1, range: −12 to 29°).
- The average in-brace correction (percent) was 67.6% (SD = 21.2, range: 29°–140%), significant (P < 0.000).
- At the thoracolumbar and lumbar for double major level (n = 75).
  - The average initial Cobb angle was 28.61° (SD = 4.1, range: 20°–40°).
  - The average in-brace Cobb angle was 6.36° (SD = 6.5, range: −9 to 25°).
- The average in-brace correction (percent) was 78.8% (SD = 21.3, range: 40°–136%), significant (P < 0.000).

Discussion/Conclusion For the BRaIST study, average in-brace correction was 33% (n = 152, range: −48 to 100%). The in-brace correction obtained by the asymmetrical high rigid polycarbonate detorsion brace corrects at least two times more than conventional polyethylene braces.

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

Patient dependent knee modeling at several flexion angles: A study on soft tissues loadings
Boris Dousteyszier1*, Jérôme Molimard1, Chafiaa Hamitouche2, Woo Suck Han1, Eric Stindel2
1 École des Mines de Saint-Étienne, Centre Ingénierie Santé, Saint-Étienne, France
2 Laboratoire de Traitement de l’Information Médicale, Brest, France
* Corresponding author.
E-mail address: boris.dousteyszier@emse.fr (B. Dousteyszier)

Objective With cartilage physiopathology, knee stability and therefore the subsequent loadings on ligaments have a strong impact in the development of knee osteoarthritis. To understand this phenomenon, authors are proposing different knee models. Most of them are without any flexion, some have been introduced by controlling actively muscular groups. In this case, the forces used to achieve the flexion may not be physiological, and the pressure on the articulation can be questioned.