**Keywords:** Cardiac rehabilitation; Coronary patients

**Introduction.**—The benefits of cardiac rehabilitation have been demonstrated for several years by different studies showing the decrease in mortality from 25 to 35%, complications and improving the physical capabilities and quality of life. The aim of our study was to demonstrate the strategy to adopt when carrying out cardiac rehabilitation and cardiovascular functional benefits in patients with Phase II coronary artery disease.

**Patients and methods.**—This study was a retrospective analysis spread over 3 years, which focused on patients having undergone angioplasty or coronary surgery. An initial medical examination was carried out detailing history, surgical and medical treatments received. The assessment was based mainly on the stress test, the 6-min walk test, on the assessment of risk factors and the quality of life by the SF36.

The program was spread over an average of 20 outpatient sessions with three sessions per week, involving segmental strengthening, central solicitation in power and endurance training and risk factors stabilization.

**Results.**—Our population included 34 patients, (30 were male), aged on average 60 years 50% had hypertension, diabetes or dyslipidemia and 60% were heavy smokers. After rehabilitation programs, we observed an increase in work performances in effort and psychological profile, while contributing to a better social reintegration.


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**P071–EN**

**The TexiSense « Smart Sock » - a device for a daily prevention of pressure ulcers in the diabetic foot**

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**Keywords:** Diabetic foot; Pressure ulcers; Pressure sensor; Prevention; Biomechanical modeling

**Goals.**—The term « diabetic foot » refers to a set of foot pathologies essentially stemming from the neuropathy and arteriopathy of the lower limb associated with diabetes mellitus. Chronic ischemia weakens the healing potential and favors the development of wounds on a more vulnerable foot. Friction or repeated micro-traumas can lead to an ulceration (which in turn can end up in an amputation) that will remain unnoticed because of the somato-sensory deficiency. The current prevention techniques largely relying on visual inspection of the foot and enhancement of the foot/insole interface are not fully satisfying as the prevalence of plantar ulcers remains very high.

**Patients and methods.**—A device for the prevention of plantar ulcers—called “Smart Sock” is described. It consists of:

– a sock made of a 100% textile pressure sensing fabric developed by the TexiSense company;

– a microcontroller running a biomechanical model of the soft tissues of the foot of the diabetic person;

– a vibrating watch (and eventually a smartphone) used to warn the bearer if a pressure pattern threatens the soft tissues integrity.

**Results.**—Internal overpressures within the soft tissues, especially nearby bony prominences are likely to develop into deep foot ulcerations. The biomechanical model gives an estimation of their magnitude based on the external pressures measured by the sock/sensor. This modeling relies on a faithful representation of the morphology of the diabetic subject. The device sends a vibro-tactile alert in case of occasional overpressure or excessive stress dose accumulated during daytime activities.

**Discussion.**—The continuous use of the device, compatible with daytime activities of the diabetic person, helps compensate for the lack of attention in the prevention of pressure ulcer formation. The TexiSense “Smart Sock” can be designed so that when worn, pressure sensors fall onto sensitive anatomical areas such as the dorsal side of the toes or the posterior side of the heel, which makes it also possible to monitor regions located outside the sole of the foot.


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**P072–EN**

**Morbidity and heel pressure sores: Bilateral transtibial amputation in a patient with heel pressure ulcers**

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**Keywords:** Diabetic foot; Pressure ulcers; Prevention; Hematology; Rehabilitation

**Goals.**—The term « diabetic foot » refers to a set of foot pathologies essentially stemming from the neuropathy and arteriopathy of the lower limb associated with diabetes mellitus. Chronic ischemia weakens the healing potential and favors the development of wounds on a more vulnerable foot. Friction or repeated micro-traumas can lead to an ulceration (which in turn can end up in an amputation) that will remain unnoticed because of the somato-sensory deficiency. The current prevention techniques largely relying on visual inspection of the foot and enhancement of the foot/insole interface are not fully satisfying as the prevalence of plantar ulcers remains very high.
Keywords: Pressure ulcers; Heels; Prevention; Risk factors; Amputation

Introduction.– Heel pressure ulcers are very painful, expensive for treatment and can severely limit mobility [1], or even lead to amputation in patients with diabetes mellitus [2] which is the case with our patient.

Comment.– Mr. DD aged 68, hospitalized for treatment of heel pressure ulcers pending implementation of a total hip prosthesis on the left.

Background.– Hypertension, NIDDM, left THP revision surgery 2005 the same year.

Habit.– Married, two children, walked with two crutches without the need for home help.

Clinical history.– In March 2009 surgery for septic loosening of the left acetabulum: removal of prosthesis. Left MCA ischemic stroke, recovered well in April, in June 2009 transferred to rehabilitation unit for assessment and management.

Clinical review.– Flexion contracture of the hips and knees, scabs unclassifiable according to the classification of NPUAP [3] 6/5 cm 4/3 cm left and right.

Functional assessment: in bed with a ban support on the left, needed ongoing assistance.

Complementary tests.– Doppler arterial: severe arterial disease of both lower limbs. Angiography: diffuse arteriopathy of both lower limbs, systolic pressure index (SPI): 0.2 to 0.11 to the right and left: chronic critical ischemia of both lower limbs. Replacing the THP 31/07/2009. August 2009: Left popliteo-pedal bypass, left SPI at 0.44 versus 0.11 preoperatively;

Course.– Despite preventive measures, strict hygienic, suitable care of bedsores, treatment of comorbidity, arterial ulcers appeared on the sides of both legs, septic shock and ICU stay. Biamputation indication on the advice of vascular surgeons.

Discussion and conclusion.– The heel pressure ulcer is painful. It is expensive, consuming care and purveyor of serious complications in patients at risk. It is essential to make every effort to prevent its occurrence. It is necessary to properly monitor the implementation of preventative measures with priority in patients at risk, but also in respect of good clinical practices in the treatment of pressure ulcers.

References