montrent une subluxation de la hanche gauche avec un défaut de couverture d’un tiers de la tête fémorale. Après concertation multidisciplinaire, il est décidé une prise en charge médicale par traitement de la spasticité première par toxine botulique sur les adducteurs et le droit antérieur et en deuxième intention une ostéotomie fémorale.


Discussion.– L’évaluation et les propositions de thérapeutiques adaptées a nécessité une réflexion multidisciplinaire avant de pouvoir proposer des aides techniques à la posture répondant exactement aux déficiences neuro-orthopédiques et aux limitations d’activités.

Pour en savoir plus

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P089-e
Multidisciplinary management in a complex case of postural positioning

E. Viollet a,*, F. Nouvel a, P. Pellae b

a Clinique du positionnement et d’aide à la mobilité, CHU de Nîmes, place du Pr-Robert-Debré, 30000 Nîmes, France
b Service de médecine physique et réadaptation, service de rééducation post-réanimation, CHU de Nîmes, Nîmes, France
*Corresponding author.
E-mail address: emilie.viollet@chu-nimes.fr.

Keywords: Wheelchair positioning approach; Disabilities; Multidisciplinary; Hip dislocation

Introduction.– Positioning is the clinical process which uses technical devices to achieve an appropriate body position for a person with postural disorders. The complexity of many clinical situations involving multiple disabilities, activity limitations and variables to be maintained together with a necessary consideration of the environmental factors requires the development of structured multidisciplinary strategies such as the following.

Case report.– A 20-year-old patient was referred with a bilateral cerebellar syndrome, predominantly myotonia of the right upper limb and left hemiparesis after resection of a cerebellar pilocytic astrocytoma. The main complaint was the onset of hip pain when sitting, limiting the transfer capability and podal propulsion of the wheelchair. In the seated position, there was a right pelvic rotation greater than 25°, pelvic obliquity, and a shorter left leg in internal rotation and abduction. In the supine position there was a limitation of the left hip flexion at 60° with Ashworth 3 adductor spasticity. Radiographically there was a subluxation of the left hip with a third of the femoral was uncovered. After multidisciplinary discussion, medical treatment was decided, using botulinum toxin for the adductor and the rectus femoralis followed by femoral osteotomy.

Results.– Complete disappearance of pain with recovery of prior functional capacity. Forward displacement of the pelvis with hyperextension of the left leg at podal propulsion persisted. The guidelines for technical posture aids: stabilization of the left hip by limiting patterns in extension when moving, lowering the seat with slope to enable foot displacement without changing the sitting posture.

Discussion.– The evaluation of proposals and appropriate therapy required a multidisciplinary reflection before proposing the appropriate technical aids for posture to match the neuro-orthopaedic impairments and activity limitations.

Further reading

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P090-e
A possible method of evaluation of smart walking aids at preclinical stage

P. Rumeau
UMR1027 Inserm, laboratoire de gérontechnologie-gérontopôle, université de Toulouse, CHU de Toulouse, 170, avenue de Casselardit, TSA 40031, 31059 Toulouse, France
E-mail address: rumeau.p@chu-toulouse.fr.

Keywords: Technical aids; Gerontology; Evaluation; Walking; AAL DOMEO ANR-CNSA

We are reporting an assessment method of usability and efficiency of walking aids designed for multihandicapped elderly people.

Method.– Four healthy and 4 handicapped elderly people (speed $<1$ m·s$^{-1}$ on 4 M in straight-line [4 M] timed get up & go $>13$ s [TGUG] et MMSE $<26$) walked the 4 M then modified TGUG (with a turn around the chair before sitting again), with their usual walking mode (U), a regular walker (S), then the Robuwalker automat (rW). Tests were filmed with a single camera. We studied: clinically the use of devices and interfaces, the position of limbs and trunk during movement; we timed the tests with a chronometer; measured on the videos (Windows Movie Maker) the duration of steps and double contacts. We averaged the time to test completion of each test condition for each volunteer. We chose for to assess the time parameters a video of a straight line walk, in one of the three trials of 4 M or TGUG, with at least 3 steps and 6 double contact periods with stabilized speed.

Results.– One of the elderly patients failed the 4 M and others had difficulties to turn or stand with rW; clinical assessment showed the reason (could not use the control interface of the automate). We obtained the completion times, Duration parameters of steps were obtained but the focus of the camera didn’t always show properly the feet; either 4 M or a straight part of TGUG had to be used; this could induce a bias (acceleration or deceleration).

Discussion.– Video is allowing gait analysis even with unsteady direction changes, analysis of the use of the interfaces, which are not possible with optokinetics. Two sets of cameras will, one, analyze the gait, the other focus on interface use. We chose to observe the following periods a video of a straight line walk, in one of the three trials of 4 M or TGUG, with at least 3 steps and 6 double contact periods with stabilized speed.

Results.– Complete disappearance of pain with recovery of prior functional capacity. Forward displacement of the pelvis with hyperextension of the left leg at podal propulsion persisted. The guidelines for technical posture aids: stabilization of the left hip by limiting patterns in extension when moving, lowering the seat with slope to enable foot displacement without changing the sitting posture.

Discussion.– The evaluation of proposals and appropriate therapy required a multidisciplinary reflection before proposing the appropriate technical aids for posture to match the neuro-orthopaedic impairments and activity limitations.

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