Swallowing physiotherapy assessment as a predictor of unsuccessful extubation in relation to excess upper airway secretions

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Keywords: Extubation failure; Physiotherapy; Swallowing disorders; Gag reflex

Background. – Extubation failure may result from various causes including swallowing dysfunction. Scarce studies have focused on swallowing evaluation to predict extubation failure. We hypothesized that bedside swallowing assessment before extubation is helpful to identify patients at risk of extubation failure.

Method. – Funded by tender APHP multicenter prospective observational study. All consecutive patients hospitalized in the medical and surgical intensive care units of four university hospitals, intubated and mechanically ventilated for ≥ 6 days were included. Before extubation, the global swallowing pattern (GSP) was evaluated by a physiotherapist including: (1) cervical, oral, labial, and lingual motricity; (2) gag reflexes; (3) swallowing reflexes; (4) volume of pharyngeal secretions. Extubation was decided by the attending physicians blinded to GSP assessment. We investigated predictors of reintubation within the first 72 hours after patient’s extubation in relation to aspiration or excess upper airway secretions.

Results. – One hundred and sixty patients (age: 61 [48–75] [median [25–75% interquartile]], M/F ratio: 1.5, SAPSII: 54 [42–66], duration of mechanical ventilation: 11 days [8–17]) were included. Six patients died. Non-invasive ventilation was used in 39 patients (25%) after extubation. Post-extubation pneumonia was assessed in 10 patients. Twenty-three patients (14.5%) required reintubation, 16 within the first 72 hours with seven (4.4%) in relation to aspiration or excess upper airway secretions. Using a multivariate analysis, normal GSP significantly predicted absence of reintubation within the first 72 hours following extubation in relation to aspiration or excess upper airway secretions (odds ratio 0.42, 95% confidence interval [0.18; 0.99], p = 0.04). Presence of normal right (0.12, [0.03; 0.59]) or left gag reflexes (0.13, [0.03; 0.63]) was significantly associated to absence of reintubation, with a negative predictive value of 0.96. There was a trend for oral motricity assessed by asking the patient to grit teeth to predict the necessity of reintubation (0.22, [0.04; 1.23], p = 0.08).

Conclusion. – Normal GSP as well as presence of one or both gag reflexes is predictive of absence of reintubation in relation to aspiration and excess upper airway secretions. Our high rate of reintubation is probably due to the intubation delay, it will be interesting to perform a study with patient intubated 48 hours at least.

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Keywords: Dislocation; Shoulder; Rehabilitation

Aim. – Investigate the effect of analytical manual therapy relocating techniques realized by Sohier [1] (METHOD-1) on scapula-humeral joint amplitudes and its comparison to an operator-independent shoulder rehabilitation device (METHOD-2).

Participants. – Twenty right-handed subjects (22 ± 5 ans), with no previous shoulder injuries within the past two years (Kapandji test). Mild pain was triggered among 18 subjects in the posterior passage way. The examination was completed by a “Japanese Orthopaedic Association Shoulder Score” (JOASS), which revealed scores ranging between 71.6 and 88.42%. 1a subjects completed 4 × 70 pulling (30s rest) with METHOD-2 while the other group completed METHOD-1.

Materials. – One inclinometer (3B Scientific) allowing to measure the shoulder joint amplitude and a shoulder rehabilitation device. The effect was assessed by using an affect perception scale «Self Assessment Manikin» (SAM) [2]. Besides, a Borg-CR10 [3] was used to assess the pain perception.

Methods. – The participants were asked to complete a test, relocating maneuver (METHOD-1 or METHOD-2), and a retest after 6-8 days. The measured variables were the angles of abduction, elevation, medial and lateral rotation, and the scores obtained for the SAM and Borg-CR10 scales. A paired Student-T test was carried out in order to compare the test and retest results (p < .05).

Results. – The data analysis revealed a decrease in Borg-CR10 Scale (0.9) and an increase in SAM scale (1.5) in METHOD-1 participants. Comparable results were observed in METHOD-2 subjects with scale values of 1.25 and 1.7, respectively. The gains of amplitude in METHOD-1 participants [from 5.4 to...
Stabilité pour 48 patients (90%).

21 sessions (12
For the 28 most injured shoulders with the SCP increases from 48 to 84% after

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value (SCPF);

Excluded: capsulitis, AT, biceps tendinitis, fractures involving the supraspinatus
broken and calcifying) of non-operated cuff, reeducated on Scapuleo, according

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Keywords: Shoulder; Rotator cuff; Closed chain; Innovation; Rehabilitation

Introduction.– A maneuver refocusing glenohumeral active closed chain improves
the centering of the glenohumeral joint [1].

HAS recommends muscular strength training in the rehabilitation of the
shoulder (pathology of non-operated rotator cuff) [2].

The combination of these two concepts is the origin of an innovative device:
Scapuleo.

Objective.– Evaluation of the effectiveness of the rehabilitation of the shoulder
as per the 3 C Concept (Concept of Centering in a Closed Chain).

Material/methods and patients.– Soixante-six shoulders tendinopathy (single,
broken and calcifying) of non-operated cuff, reeducated on Scapuleo, according
to the 3 C concept.


Excluded: capsulitis, AT, biceps tendinitis, fractures involving the supraspinatus
and subscapularis. Means of evaluation:
– calculation of the Constant-Murley score weighted initial (SCPI) and final
value (SCPF);
– rehabilitation protocol: the 3 C Concept includes;
– an active-rehabilitation with Scapuleo (20 minutes): painless overall work,
pushing and/or pulling in a closed chain, alternating with rest and hand on the
thigh;
– passive mobilization (5-10 minutes) of the shoulder and muscle easing
(adductor, posterior cuff ..) and if necessary a treatment of contractures (Jones,
myotensif).

Duration: On average 19 sessions (15 weeks).

Results.– On average, the SCP increases from 69% to 96%.

For the 28 most injured shoulders with the SCP increases from 48 to 84% after
21 sessions (12−40);
– 53 patients were interviewed (SCPI 72%, SCPF 98%) 12 months (6−18) after
the end of the treatment.

Stability for 48 patients (90%).

Pain-Average: 1.6/10 (0 for 29 patients).

– five had another treatment, one self-rehabilitates.

Discussion.– Rehabilitation of the shoulder in closed chain, according to the
Concept 3 C improves sustain the Constant-Murley score.

Subacromial impingement syndrome and pain are reduced. Anatomical and
physiological explanations are identical to those of the maneuver [1].

Randomised controlled studies should confirm these preliminary results.

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Rotator cuff: Rehabilitation in a closed chain, Concept 3 C

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Effect of a robot-assisted gait session for patients
with decreased knee flexion during swing phase

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Keywords: Tri-dimensional motion analysis; Body weight support (BWS);
Robot-assisted gait; Hemiplegia; Total knee arthroplasty (TKA)

Introduction.– The main objective of gait training on robot-assisting gait
(Lokomat®) is to improve the quality of gait patients (Lampire N et al., 2011).
Hemiplegic patients and patients holding total knee arthroplasty (TKA) are two
populations with frequent gait disorders, including a deficit of peak knee flexion
in swing phase (Pélissier J et al., 1997, McClelland JA et al., 2007). We wanted
to objectify the Lokomat® session specific effects in each of these populations.

Method.– A tri-dimensional motion analysis was recorded before and
immediately after a Lokomat® training session. The main parameters to analyze
were peak knee flexion in swing phase, the spatial and temporal parameters.

Results.– The study is in progress. Currently, 16 subjects with hemiplegia and 8
subjects holding a TKA were included. The peak knee flexion was not significantly
improved in the two populations. On hemiplegic patients, Lokomat® training
session improves spatial and temporal parameters. None of the parameters were
significantly improved in the population of subjects holding a TKA.

Discussion–Conclusion.– The two populations had very different characteristics,
one suffering from neuro-motor disorders and the other orthopedic
disorders only. We expected an improvement in peak knee flexion in both
populations, especially in patients who underwent TKA, free of neuro-motor disorders.
In both populations, the peak knee flexion is not improved. For patients
undergoing TKA, pain is to take into account and may explain the lack of
difference after the Lokomat® session. For hemiplegic patients, improved
spatial and temporal parameters showed a change in gait after the session, in
connection with the pace with the Lokomat®, but the integration of
proprioceptive sensations is not highlighted on one a session: peak knee
flexion is not changed. Then it would be interesting to study the quality
and quantity of feedback given to the patient during the session.

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Cervicalgies du sportif et techniques myotensives

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Mots clés : Cervicalgie ; Sport ; Techniques myotensives

Objectif.– Décrire l’apport des techniques myotensives dans la prise en charge
des cervicalgies chez les sportifs.

Patients et méthodes.– Il s’agit d’une étude prospective concernant 20 sportifs
suivis dans le service de médecine physique et réadaptation fonctionnelle (Sfax-
Tunisie) pour des cervicalgies en rapport avec un dérangement intervertébral
mineur (DIM) durant l’année 2012.

Ces sportifs ont bénéficié de cinq Séances de techniques myotensives
de Mitchell [1] en se basant sur une meilleure connaissance anatomique de la
région du cou.

L’évaluation de la douleur a été réalisée avant puis un mois après le début de la
rééducation.

Résultat.– Après cinq séances de rééducation spécifique comportant des
techniques myotensives, nous avons noté une amélioration de la symptoma-
tologie douloureuse chez 17 patients.