

**207 - LABOR GYMNASTICS X BURSITIS: A PROGRAMMED INTERVENTION**

MARCOS VALÉRIO SOARES NASCIMENTO  
 REJANE DUARTE L. MONTEIRO  
 BÁRBARA R. DE MOURA  
 Universidade de Brasília – Brasília – DF – BRASIL  
 mr\_labor@yahoo.com.br

**INTRODUCTION**

In the current world, can be observed countless variable, between them the technology, that facilitate the life of the people, that become more sedentary. Although this change in the standard behavior, in accordance with NAHAS (2003), the human organism was constituted to be active. The concern of keeping the quality of allied life to the biggest productivity has stimulated professional of diverse areas, with prominence to the related ones to the health, to study the relation between work and illness. The research has demonstrated how some types of occupations affect the health of the people, as well as the scientific development it has allowed to establish methods for the treatment and prevention of occupational illnesses (RÉGIS FILHO, 2000).

The occupational illnesses consist of muscular injuries and/or of tendons, fascias, nerves of the superior members, the scapular waist and the neck, mainly, caused for the incorrect use of these structures biomechanics, followed or not for objective alterations. These pathologies result in pain, fatigue, performance fall in the work, temporary incapacity e, as the case can evolve for a painful chronic syndrome, in this phase aggravated for all the psychic factors, in the work or out, capable to reduce the threshold of painful sensitivity of the individual (ESPENZER, 2001). The repetitive strain injuries (RSI) or musculoskeletal disorders related to the work (DORT) are a set of illnesses that affect muscles, tendons, nerves and vases of the superior members (fingers, hands, fists, forearms, arms, shoulder, neck and vertebral column) and inferiors (knee and ankle, mainly) and that they have direct relation with the requirements of the tasks, environments and the work organization (CHIAVEGATO FILHO; PEREIRA JUNIOR, 2004).

Verthein e Minayo-Gomes (2000) report referring discords to the characterization of these disorders. They are several the used terms, depending on the clinical aspect that if it wants to emphasize and on the model that if wants to adopt to deal with the problem.

In Brazil, the denomination initially adopted for musculoskeletal disorders related to the work was occupational tenossinovite, later had passed to be identified as injuries for repetitive effort (LER), translation of repetitive strain injuries (RSI).

It was stipulated, finally, the denomination work-related musculoskeletal disorders (DORT), Sítientibus, and recently, the one that has been more commonly found in international literature is the denomination musculoskeletal disorders (RÉGIS FILHO, 2000).

The musculoskeletal disorders are related with the repetitive activities. From the decade of 60, they have been more frequently observed.

Amongst the occupational pathologies, those are related to the repetitive activities, it is observed bursitis. Bursitis is an inflammation of the sinovial pouch.

It can be seern Bursitis, daily pre-kneecaps, isquiatics, subdeltoidians, subaquileans, retroolecranians and can have infectious, metabolic, traumatic or micro traumatic origin (XHARDEZ, 2001).

The bursitis is situated frequently in the shoulders and cause regional pain, mainly during the accomplishment of certain movements as abduction, external rotation and rise of the superior member. When the treatment is not adjusted, pain radiates scapular region or arms and generates functional incapacity that culminates with the installation of the "frozen shoulder" (adhesive capsulate) or of the syndrome shoulder-hand (dystrophies likeable reflected) (YENG, 2001).

They having bases, the existing and increasing incidence of occupational illnesses, the labor gymnastics has gained prominence in Brazil in recent years, it has being used as an important tool, inside of the set of measures that they aim to prevent the appearance of injuries inside osteomioarticular on the activities of the workstation (MARCHESINI, 2002).

There are different types of labor gymnastics, depending on the time availability of the institution, the gymnastics can be executed in three ways, it has been adapted according to employee necessity. Thus the labor gymnastics can be carried through the work can after be at the beginning - preparatory, during - compensatory and after - relaxation (NASCIMENTO e MORAES, 2000).

The labor gymnastics is the combination of some physical activities that has as common characteristic, to improve under the physiological aspect, the physical condition of the individual in its work (RODRIGUEZ, 2004).

The labor gymnastics can included as preparatory when carried through at the beginning of working, it has as main objective to prepare the employee for the daily routine, heating the muscular groups that will be requested in its tasks and waken to feel ready to start working (Nascimento and Luna, 2008), as well as the compensatory and relaxation.

Several studies point the benefits of the labor gymnastics, as: better respiratory conditioning; promotion of the corporal conscience; correction of the bad positions of the column; promotion of the total health (physical, social, emotional, psychic, professional and spiritual); to prevent absences in the work (absenteeism) and act of contract of substitutes; fortifying of the interpersonal interactions; improvement of the quality of the service or product; increase of the productivity; prevention of the physical and mental fatigue; e as already cited, prevention of the work diseases (DIASCANIO, 2003).

Leaving of the estimated one of the necessity of studies that relate the labor gymnastics with the occupational pathologies, a study case corroborates the benefits gotten from a supervised program of applied labor gymnastics in a carrying volunteer of bursitis in the shoulder.

**OBJECTIVES**

To verify the impact of a supervised program of physical exercise of labor gymnastics in the treatment of the pathology bursitis.

**Sample**

The sample of the study was composed for an individual of the feminine sex, single, 43 years, 1,52 meters of height, 55 kilograms, carrier of the bursitis pathology in the shoulders and sedentary. The volunteer has familiar description of atrite and

fibromyalgia. She already made treatment of the pathology with rest and antiinflammatories, however without satisfactory effects.

The volunteer works in the Brasilia University Hospital (HUB), has four years, where she has two years and six months as archivist, moment which was diagnosed the pathology. Since then, it has eighteen months; she was readjusted to the activities of secretariat, so that it does not have necessity to carry through great rises of the shoulder. During fourteen years it worked with activities of manual writing and typing.

### METHODOLOGY

The research is characterized as descriptive, of the type case study, in a perspective to inquire the influence of a program of labor gymnastics on the bursitis pathology. For the characterization of the sample, it was applied the questionnaire of topography and intensity of pain according to MILK (1997 adapted of BUCHLE, 1987; ECHTERNACH, 1987).

The first contact with the volunteer was clarified the intervention procedure, to guarantee her integrity in the participation and authorization for spreading of the results. Having for intention to delineate aspects not mentioned in the questionnaire as discovered of the pathology, measured taken, and other influential pointers in the study, it was carried through an interview with the volunteer before and after the intervention.

Among the made questions, they are distinguished: 1. When the first symptoms of the pathology had appeared? ; 2. When had been taken the first steps? Which? ; 3. Which had been the procedures adopted for its doctor before its pathology? ; 4. Which was main reason for its tack to the supervised program of labor gymnastics? ; 5. Which had been its perceptions of pain during and to the ending of the sessions of labor gymnastics? 6. Do You intend to give continuity to the program of labor gymnastics? The questionnaire was applied before and after intervention of the program, it have been the first one in three of March of 2009, where the points and the intensity of pains had been diagnosed. After four months, had a reapplication of the questionnaire with intention to evaluate the evolution in the found results initially.

The labor gymnastics program was composed for three weekly sessions (Monday, Wednesday and Friday), it was executed in the period of the morning with average duration of twenty minutes, in the workstation. There were the participation of diverse employees of the sector in the study; however, the accomplished activities had a total aiming to the volunteer of the research.

It was used dynamic exercises frequently that explored the diverse amplitude of the joint of the shoulder, however there were a care and respect to the limitations of the volunteer. Purposing to strengthen the involved muscles and tendons in the movements of the shoulder, resisted exercises had been used. There is alluded that the use of massages in the region of the coasts and shoulders.

### RESULTS

From an analysis of the collected data before and after the intervention, are noticed resulted how much intensities of indicated pains (table1),

	Shoulder		Fist		Neck		Lumbar/Back	
	Before	After	Before	After	Before	After	Before	After
Intensity of pain (1-10) *	9	5	8	4	9	5	8	5
Difference reduction (%)	40,00		50,00		44,45		37,50	

Table1: Results of the topography questionnaires and intensity of pain before and after the intervention of the supervised program of labor gymnastics.

It is observed that before the intervention using the labor gymnastics, the volunteer complained, from the scale of pain intensity, of maximum pain in all the cited regions. After four months of intervention and reapplied the questionnaire, the volunteer presented improvement in the pain situation, painful to moderate.

In relation to the interview, it can be identified that after the sessions of labor gymnastics, the volunteer felt an improvement in pains that bothered it, in special in the joint of the shoulder, but that during the execution of the exercises the same one felt that the musculature of the arm "lost the force".

### DEBATE

The studied pathology consists of an inflammation in bursas, capsule coated for synovial membrane full of synovial liquid, located below of the muscle deltoid. This structure has the specific function to prevent constants adjacent attritions between the osseous structures and soft tissue to the shoulder (Hall, 2000), once that the joint has the capacity to execute ample and complex movements.

Frontera et. al (2001, P. 215), intent for the fact of that all the articulate diseases has intrinsic factors as: the rigidity, pain, the articulate deformity, the contracture of soft tissue, muscular atrophy, the physical no conditioning generalized and the reduction of the function. The loss of the strength can come associated to the cited factors. Attempting for this fact, the reason is justified when the volunteer asked about the "loss of pain" during the accomplishment of the lessons. It is also observed that at the ending of the activities, and after an appointed period to the rest, the same one presented a comfort in the worked regions. The volunteer did not present rupture of the tendons that involved the structure of the shoulder, this way, can be said that it met in called period of training 1 daily pay-adhesive, where have an inflammatory reaction (Ferreira Filho, 2005), therefore exercises had worked that involved the internal and external rotation of dynamic and static, similar form to recoup the force and amplitude of the movements. Therefore, in this way, it is emphasized constant intention in minimizing the impact and attrition which is attack the joint.

### CONCLUSION

Finally, was possible in this in case that, to conclude that a work with programmed, dynamic and resisted physical exercises, was positive the point to minimize the physical points of pain and damages, that had suffered losses due to inflammation from bursas, recouping the mobility and the force of the structures of the shoulders.

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#### ABSTRACT

The occupational illnesses consist of muscular injuries and/or of tendons, fascias, nerves of the superior members, the waist to scapular and the neck, mainly, caused for the incorrect biomechanics use of these structures, Amongst the occupational pathologies, that are related to the repetitive activities, mainly observes it bursitis that are the inflammation of the synovial stock market, characterized for the occurrence of inflammatory processes in bursas, Frequently located in the shoulders and cause regional pain, during the accomplishment of movements as abductor, external rotation and rise of the arms. When the treatment is inadequate, pain radiates region to scapular or arms and generates functional incapacity. Leaving of the estimated one of the necessity of studies that relate the labor gymnastics with the occupational pathologies, a case study was become fulfilled that it corroborates with the benefits gotten from a supervised program of applied labor gymnastics in a carrying volunteer of bursitis in the shoulders. Ahead of this reality, the study it has for objective to verify the impact of a supervised program of physical exercise of labor gymnastics in the treatment of the pathology bursitis. The research if characterized as descriptive, study of case, application of topography questionnaire and intensity of pain, with composed public-target for an individual of the feminine sex, carrying of the pathology bursitis in the shoulders and sedentary. Finally, she was possible in this in case that, to conclude that a work with programmed, dynamic and resisted physical exercises, was positive minimizing the physical points of pain and damages, that had suffered to losses, recouping the mobility and the force of the structures of the shoulders, the volunteer tells.

**KEY-WORDS:** bursitis – health - work

#### RÉSUMÉ

Les maladies professionnelles se constituent par des blessures musculaires et/ou de tendons, de fascias, de nerfs des membres supérieurs, de la taille escapular et du cou, principalement, causées par l'utilisation biomécanique incorrecte de ces structures, Parmi les pathologies professionnelles, qui sont rapportées aux activités répétitives, s'observe bursite que c'est l'inflammation de la bourse synoviale, caractérisée par la présence de processus inflammatoires dans les bursas, Fréquemment localisée nous épaules et causent douleur régionale, principalement pendant la réalisation de mouvements mange abduction, rotation externe et hausse des bras. Quand le traitement est inadéquat, à douleur se rayonne pour région escapular ou bras et produit incapacité fonctionnelle. En partant du présupposition de la nécessité d'études qui rapportent la gymnastique ouvrière avec les pathologies professionnelles, s'est réalisée une étude de cas lequel il corrobore avec les bénéfices obtenus à partir d'un programme supervisé de gymnastique ouvrière appliquée dans une volontaire porteuse de bursite nous épaules. Devant cette réalité, l'étude il a objectif vérifier l'impact d'un programme supervisé d'exercice physique de gymnastique ouvrière dans le traitement de la pathologie bursite. La recherche s'est caractérisée comme descriptive, étude de cas, application de questionnaire de topographie et intensité de douleur, avec público-alvo composée par une personne du sexe féminin, porteuse de la pathologie bursite nous épaules et sédentaire. Finalement, a été possible dans ce cas, conclure qu'un travail avec des exercices physiques programmés, dynamiques et résistés, a été positif en minimisant les points de douleur et les dommages physiques, qui ont souffert pertes, en récupérant la mobilité et la force des structures des épaules, dit la volontaire.

**PALABRA-CLÉ :** bursitis – santé – travail.

#### RESUMEN

Las enfermedades ocupacionales consisten en lesiones musculares y/o de los tendones, fascias, nervios de los miembros superiores, la cintura a escapular y el cuello, principalmente, causado para el uso biomecánica incorrecto de estas estructuras, entre las patologías ocupacionales, que se relacionan con las actividades repetidoras, los observa principalmente bursitis que sea la inflamación de la bolsa sinovial, caracterizado para la ocurrencia de procesos inflamatorios en bursas, situada con frecuencia en los hombros y causa dolor regional, durante la realización de movimientos como abducía, la rotación externa y subida de los brazos. Cuando el tratamiento es inadecuado, el dolor irradia la región a escapular o arma y genera incapacidad funcional. El irse de estimado de la necesidad de los estudios que relacionan la gimnasia de trabajo con los patologías

ocupacionales, un estudio de caso fue convertido que corrobora con las ventajas conseguidas de un programa supervisado de la gimnasia de trabajo aplicada en un voluntario que lleva del bursitis en los hombros. Delante de esta realidad, el estudio que tiene para que el objetivo verifique el impacto de un programa supervisado del ejercicio físico de la gimnasia de trabajo en el tratamiento del bursitis de la patología. La investigación si está caracterizado como descriptiva, estudio del caso, uso del cuestionario de la topografía e intensidad del dolor, con la público-blanco compuesta para un individuo del sexo femenino, el llevar del bursitis de la patología en los hombros y sedentario. Finalmente, ella era posible en esto en caso de que eso, concluir que un trabajo con ejercicios físicos programados, dinámicos y resistidos, era positivo que reducía al mínimo los puntos físicos del dolor y de los daños, que habían sufrido a las pérdidas, recuperando la movilidad y la fuerza de las estructuras de los hombros, dice el voluntario.

**PALABRAS-LLAVE:** bursitis – salud - trabajo

#### **RESUMO**

As doenças ocupacionais constituem-se por lesões musculares e/ou de tendões, de fâscias, de nervos dos membros superiores, da cintura escapular e do pescoço, principalmente, ocasionadas pela utilização biomecânica incorreta dessas estruturas, Dentre as patologias ocupacionais, que estão relacionadas às atividades repetitivas, observa-se a bursite que é a inflamação da bolsa sinovial, caracterizada pela ocorrência de processos inflamatórios nas bursas, Freqüentemente localizada nos ombros e causam dor regional, principalmente durante a realização de movimentos como abdução, rotação externa e elevação dos braços. Quando o tratamento é inadequado, a dor irradia-se para região escapular ou braços e gera incapacidade funcional. Partindo do pressuposto da necessidade de estudos que relacionem a ginástica laboral com as patologias ocupacionais, realizou-se um estudo de caso que corrobora com os benefícios obtidos a partir de um programa supervisionado de ginástica laboral aplicado em uma voluntária portadora de bursite nos ombros. Diante dessa realidade, o estudo tem por objetivo verificar o impacto de um programa supervisionado de exercício físico de ginástica laboral no tratamento da patologia bursite. A pesquisa se caracterizou como descritiva, estudo de caso, aplicação de questionário de topografia e intensidade de dor, com público-alvo composto por um indivíduo do sexo feminino, portadora da patologia bursite nos ombros e sedentária.. Por fim, foi possível neste caso, concluir que um trabalho com exercícios físicos programados, dinâmicos e resistidos, foi positivo minimizando os pontos de dor e os danos físicos, que sofreram perdas, recuperando a mobilidade e a força das estruturas dos ombros, relata a voluntária.

**PALAVRAS-CHAVE:** bursite – saúde - trabalho

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