

Physical Therapy Department for Musculoskeletal Disorder and Its Surgery

Doctoral Degree
2004

Author	:	Ibtissam Mohamed saab.
Title	:	The effect of changing the frequency of bending load on bone formation after two different periods of unloading in adult Wister rats.
Dept.	:	Physical Therapy Department for musculoskeletal disorder and its Surgery.
Supervisors	1.	Bassem Galal El Din El Nahass.
	2.	Abdalla Sayed Ahmad Mohamed.
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Degree	:	Doctoral.
Year	:	2004.
Abstract	:	<p>The purpose of this study was to investigate the influence of changing frequency of mechanical bending load and two different periods of unloading on bone formation. One hundred-thirty (65 females, 65 males) adult Wister rats were randomly assigned into 3 control (I, II, and III) and 4 experimental (A1, A2, B1, and B2) groups. Control I and II were rail suspended for 2 and 1 week, respectively; control III were free movable; both tibiae of experimental groups A1 and A2 were treated for 2 weeks by 3-point bending load of 40N , with 1 and 2 Hz , respectively , for 36 cycles/day , every other day , after being suspended for 2 weeks; B1 and B2 received the same treatment but after suspension for 1 week. Measurements taken were tibial bone length (BL), bone strength (BS), calcium content (CaC) , and histomorphometry . Results showed that, changing frequency from 1 to 2 Hz after both periods of unloading did not change significantly BL, BS, CaC, and osteoblast (ObS) and osteoclast (OcS) surfaces. Bone area (BA) showed slight increase while wall thickness (WT) and trabecular surface (TrS) demonstrated significant increases with 2 Hz compared to 1 Hz only after 2 weeks. We concluded that , the effect of changing bending load frequency on BA, WT , TrS, and ObS depends on the unloading period . Increase of strain rate after 2 weeks of unloading resulted in better enhancement in BA, WT, TrS, and osteoblast number and activity. Cortical bone was less affected by skeletal unloading than trabecular bone. Cortical bone cells sensitivity might be higher after 2 weeks of unloading while that of trabecular bone might be higher after 1 week.</p>
Key words	1.	load frequency.
	2.	Unloading.
	3.	bone formation.
	4.	bone length.
	5.	bone mechanical properties.
	6.	bone calcium content.
	7.	bone histomorphometry.
Arabic Title Page	:	تأثير تغير تردد الحمل المسبب للالتواء علي تكوين العظام بعد مدتين مختلفتين من عدم التحميل عند الفئران ويستتر البالغين.
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**ELECTRONIC GUIDE TO THESES APPROVED BY
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DISORDER AND ITS SURGERY
PREPARED BY NERVEEN ABD EL SALAM ABD EL KADER AHMED**

Author	:	Zein El-Abden Hassan Morsy.
Title	:	The effectiveness of flatfoot orthotics and muscle energy techniques in the management of patellofemoral dysfunction.
Dept.	:	Physical Therapy Department for musculoskeletal disorder and its Surgery.
Supervisors	1.	Bassem El-Nahass.
	2.	Mohamed Ossama Hegazi.
Degree	:	Doctoral.
Year	:	2004.
Abstract	:	
<p>The purpose of this study was to investigate the effect of postisometric relaxation combined with semi rigid flatfoot orthotics in the treatment of patellofemoral dysfunction resulting from excessive subtler promotion secondary to the flatfoot deformity. twenty patients with bilateral patellofemoral dysfunction were randomly assigned in one of two groups; both groups have received flatfoot orthotic, semi rigid type, active quadriceps isometric exercises and stretching of both quadriceps and hamstring muscles; the experimental group received besides the previous program post isometric relaxation twice weekly for eight weeks. The pain was evaluated by visual analogue scale of different activities as walking, ruining, stair activities, sitting for one hour and squatting; quadriceps angle measured from supine laying position and congruence angle using Merchant technique X-ray was also evaluated pre and post treatment simultaneously with qadriceps isometric toque using isokinetic machine (MERAC). however, both groups showed a significant difference between pre and post treatment measurements of the congruence angle, retro patellar pain and VMO muscle torque, the quadriceps angle was recorded no significant difference; , although a significant difference was recorded only in pain reduction and isometric quadriceps muscle torque, comparing group to the control one, the experimental group showed the means of differences of the experimental more improvement of congruence angle.the results of the study recommend the use of semirigid flatfoot orthotoc combined with post isometric relaxation of VMO and active exercise program in the management of patellofemoral dysfunction</p>		
Key words	1.	Patellofemoral dysfunction.
	2.	malt racking.
	3.	Flatfoot.
	4.	subtler probation.
	5.	Footorthotics.
	6.	muscle energy technique.
	7.	post isometric relaxation technique.
Arabic Title Page	:	تأثير استخدام جبيرة تفلطح القدم واساليب الطاقة العضلة في علاج الخلل الوظيفي لمفصل الرضفة مع اسفل عظمة الفخذ.
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