

## Physical Therapy Department for Musculoskeletal Disorder and Its Surgery

Doctoral Degree  
2001

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<b>Title</b>	:	<b>Kinetic chain exercises in restoration of knee dynamic stability after anterior cruciate ligament reconstruction.</b>
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<b>Abstract</b>	:	
<p>The anterior cruciate ligament (ACL) is the most frequently injured ligament in the knee joint. The rehabilitation after reconstruction is a critical point to be considered. The purpose of the current study is to compare between open kinetic chain (OKC) exercise program during the rehabilitation after arthroscopic-assisted ACL reconstruction using semitendinosus and gracilis tendons auto graft. Thirty male subjects participated in the study. The patients were randomly assigned into two groups, OKC exercise group (15 patients) received OKC exercises in from of isometric and isotonic resistive exercises and CKC exercise group (15 patients) received CKC exercises in from of weight bearing exercises. The two exercise programs started immediately after ACL reconstruction for 3 months and then the patients follow up assessment was at the 6<sup>th</sup> month after surgery. It was found that the CKC exercise group had higher functional score (91.3%) and more knee stability (2.67mm tibial displacement) than OKC exercise group which gained only 85.8% score and high (3.73 mm) knee laxity. No significant difference between both groups in muscle power, muscle girth and knee effusion. It was concluded that CKC exercise program functionally is better and safer for the graft after ACL reconstruction.</p>		
<b>Key words</b>	1.	<b>Knee.</b>
	2.	<b>Exercises.</b>
	3.	<b>Rehabilitation.</b>
	4.	<b>Stability.</b>
	5.	<b>Reconstruction.</b>
	6.	<b>Mechanics.</b>
	7.	<b>laxity.</b>
<b>Arabic Title Page</b>	:	<b>تمارينات السلسلة الحركية في استعادة الثبات الحركي للركبة بعد اعادة بناء الرباط الصليبي الامامي.</b>
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