

**ELECTRONIC GUIDE TO THESES APPROVED BY
PHYSICAL THERAPY DEPARTMENT FOR MUSCULOSKELETAL
DISORDER AND ITS SURGERY
PREPARED BY NERVEEN ABD EL SALAM ABD EL KADER AHMED**

Physical Therapy Department for Musculoskeletal Disorder and Its Surgery

**Doctoral Degree
1989**

Author	:	Bassem G. El Nahass.
Title	:	The three dimensional motion of the normal and prosthetic knee in vivo.
Dept.	:	Physical Therapy Department for musculoskeletal disorder and its Surgery.
Supervisors		1. Whitley R. Powers. 2. Peter S. Walker. 3. Howard Knuttgen. 4. everett Harman.
Degree	:	Doctoral.
Year	:	1989.
Abstract	:	
<p>The objectives of this study were to develop and verify a non-invasive system for six degrees of freedom of knee joint motion measurement in vivo ; to use the system to test a group of normals and a group of patients with kinmatic II(Howmedica , Inc ., Rutherford , NJ) type total knee replacement . A 3 space Tracker's (Polhemus Navigation Sciences Divusion , McDonnell Douglas Electronic Company , Colchester , VT) source and sensor were mounted on the subject 's leg and thigh respectively , using a particularly designed light plastic fixture . A specially desihned device was used with x-rayto locate the centers of the condyles of the femur. Twenty five normals aged on average 60.76 +- 6.064 years and twenty five patients withtotal knee replacement (TKR) aged 67.08 +- 10.862 years participated in the study.</p>		
Key words		1. three dimensional motion. 2. prosthetic knee in vivo. 3. knee.
Arabic Title Page	:	الحركة ثلاثية الابعاد لمفصل الركبة الطبيعي والصناعي في الكائن الحي.
Library register number	:	646.