

ملاحظات:



# **Unicompartmental Knee Arthroplasty versus Total Knee Arthroplasty in Treatment of Unicompartmental Knee Osteoarthritis: A Systematic Review and Meta Analysis**

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Degree in Orthopedic Surgery*

*By*

*Mohamed Ahmed Yousuf*  
*MB., B.Ch.*

*Under Supervision of*

**Prof. Dr. Wael Samir Abdelmegeed Osman**

*Professor of Orthopedic Surgery  
Faculty of Medicine, Ain Shams University*

**Dr. Ayman Fathy Mounir**

*Assistant Professor of Orthopedic Surgery  
Faculty of Medicine, Ain Shams University*

*Faculty of Medicine  
Ain Shams University  
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بِسْمِ اللَّهِ الرَّحْمَنِ الرَّحِيمِ

قالوا

سبحانك لا علم لنا  
إلا ما علمتنا إنك أنت  
العليم العليم

صدق الله العظيم

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# List of Abbreviations

Abb.	Full term
AAOS.....	American Academy of Orthopedic Surgeons
ACL .....	Anterior cruciate ligament
ACR .....	American College of Rheumatology
AKS .....	American Function Knee Score
AP .....	Anteroposterior
APM.....	Anterior Peripheral Medial
CI .....	Confidence interval
CT .....	Computed tomography
DVT .....	Deep venous thrombosis
FB .....	Fixed-bearing
HSS.....	Hospital for special surgery
HTO .....	High tibial osteotomy
K/L.....	Kellgren/Lawrence
KSS.....	Knee society score
LB .....	Lower bond
MB .....	Mobile-bearing
MCL.....	Medial collateral ligament
MRI.....	Magnetic resonance imaging
NCBI .....	National Center for Biotechnology Information
NLM .....	National Library of Medicine
OA.....	Osteoarthritis
OARSI .....	Osteoarthritis Research Society International
OKS .....	Oxford knee scoring
OR.....	Odds ratio
PA .....	Posteroanterior
PE .....	Polyethylene
PFJ .....	Patellofemoral Joint
RCT .....	Randomized controlled trial
REM .....	Random-effects method

# List of Abbreviations *cont...*

Abb.	Full term
RML.....	Restricted maximum-likelihood
ROM .....	Range of motion
SD .....	Standard deviation
TKA .....	Total knee arthroplasty
UB .....	Upper bond
UKA.....	Unicompartmental knee arthroplasty
VAS.....	Visual analogue score
WOMAC .....	Western Ontario and McMaster Universities Osteoarthritis Index

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## INTRODUCTION

**D**egenerative changes of the knee more frequently involve all the joint, including medial, lateral and patellofemoral compartments. <sup>(1)</sup> However, up to 30% of patients can develop OA in only one compartment of the joint, especially the medial one. <sup>(2)</sup>

The initial treatment of OA is non-operative and consists of patient education, weight reduction, physical therapy and pain relieving medication <sup>(3)</sup>. Other non-surgical interventions for unicompartmental OA are knee braces which may alter the alignment of the lower extremity <sup>(3, 4)</sup>. If conservative treatment fails, surgical treatment maybe indicated.

Several surgical approaches have been proposed to address it, such as high tibial osteotomy, unicompartmental knee arthroplasty (UKA) and total knee arthroplasty (TKA) according to the age and the level of activity of the patient, and the clinical features of the knee. <sup>(5)</sup> However, the best management of these patients is still controversial. <sup>(6)</sup>

UKA was first introduced in the 1970s as an alternative to TKA or HTO for single compartment OA. UKA is a joint resurfacing procedure in which the affected degenerative compartment is treated with implant prosthesis, while the non-affected compartment is preserved. UKA allows knee bone stock preservation and offers patients a less invasive procedure with a faster recovery time. <sup>(7, 8)</sup>

## **AIM OF THE WORK**

**T**he aim of the study is a systematic review conducted to compare the outcomes between UKA & TKA in patients with medial knee osteoarthritis as regard pain, range of motion, functional outcomes, patient satisfaction & incidence of complications and revision.

# REVIEW OF LITERATURE

## Medial Knee Osteoarthritis

**I**solated advanced degenerative arthritis of the medial compartment of the knee is the most common indication for UKA.<sup>(9, 10)</sup>

The pathogenesis of isolated medial compartment Disease is well recognized. Progressive loss of articular cartilage leads to varus malalignment of the limb that then further overloads the articular cartilage and causes additional loss of articular cartilage over time.<sup>(11, 12)</sup>



**Fig. 1:** The typical disease pattern of anteromedial osteoarthritis on x-ray radiograph