## **Contents**

	Page
- Introduction	Ι
- Aim Of The Work	IV
- Anatomy and Biomechanics of the Posterolateral corner of the knee	1
- Pathology of the injuries of Posterolateral corner of the knee	22
- Management	30
- Summary and Conclusion	107
- References	113
- Arabic Summary	

## **List of Tables**

Table No.	Title	Page
1	Comparison between Isolated PLC & PLC + PCL Sectioning	48
2	Treatment algorithm for management of posterolateral corner injury based on injury grade	50
3	Clinical Outcomes of Chronic Anatomic Reconstruction of the Posterolateral Corner	86
4	Clinical Patterns of Combined PCL Plus Posterolateral Knee Injury	87
5	Graft Selection Options	93
6	Advantages & Disadvantages between Autogenous & Allograft	93

## List of Figures

Fig. No.	Title	Page
1	Anatomy of postrolateral corner of the knee	3
2	Layers I and II of the structures of the lateral side of the knee	4
3	Oblique views of the posterolateral aspect of the right knee	5
4	Lateral view	6
5	An oblique view of the posterolateral aspect of the right knee	7
6	An axial depiction of the posterolateral corner of the knee shows the three-layer anatomy	9
7	Illustration of the anatomy of the posterolateral corner demonstrating the three major components	10
8	A, relationship between the normal fibular collateral ligament	12
9	Arterial anatomy in the popliteal space	13
10	Illustration showing how, arising from the posterior part of the fibula, the popliteofibular ligament joins the popliteus tendon just above the musculotendinous junction	17
11	The dial test	33
12	The dial test	34
13	The external rotation recurvatum test	34
14	A patient with severe right knee hyperextension and external tibial rotation is shown in this example.	35
15	The reverse pivot shift test	36
16	The posterolateral drawer test	37
17	The standing apprehension test	38
18	Varus thrust	40
19	AP radiograph of the left knee	41
20	MRI scan	43
21	Coronal fast-spin-echo MRI scan of an acute posterolateral corner	43
22	A positive drive-through sign with >1cm of lateral joint space opening.	44
23	The "drive through sign" is exceptional posterior visualisation of the lateral meniscus with >1 cm of lateral compartment opening.	45
24	Acute repair techniques of posterolateral corner (PLC) injuries	51
25	Lateral hockey stick incision centered over Gerdy's tubercle	53

Fig. No.	Title	Page
26	Posterolateral approach.	54
27	Cross section showing popliteal retractor between the lateral gastrocnemius and the posterior capsule	55
28	Cadaveric dissections demonstrating the anatomy of the posterolateral corner	56
29	Suture anchor inserted for anatomic restoration of the capsule	58
30	Passage of suture for reduction of the joint capsule	58
31	Anatomic repair of the biceps femoris	59
32	Augmentation of the popliteal attachment to the tibia.	61
33	Biceps tendon reconstruction of the posterolateral corner usually involves moving the entire distal tendon to the femur and securing it with a screw and ligament washer	62
34	Primary repair of acute PLI type C	64
35	The central third of the biceps tendon can be used to anatomically reconstruct the LCL	65
36	Surgical technique for posterolateral and lateral reconstruction	66
37	A medial valgus high tibial osteotomy	68
38	A lateral valgus high tibial osteotomy	68
39	Clancy-type full biceps femoris tendon transfer for surgical correction of PLI	71
40(A)	Surgical technique for posterolateral and lateral reconstruction are the split biceps tendon transfer	73
40 (B)	The biceps tenodesis	73
41	Fibular-Based Technique	77
42	Lateral view of Larson type reconstruction of the lateral (fibular) collateral ligament and the popliteofibular ligament	78
43	Lateral view of the LaPrade anatomic reconstruction technique	79
44	The common peroneal nerve shown retracted with a Penrosedrain	80
45	The tubularized graft. Note the care taken to maintain homogenous diameter	83
46	Posterior view of the reconstruction	84
47	allograft with a post fixation on the medial side of the femur and an interference screw fixation in the fibular tunnel	84
48	Tibial inlay fixation of bone-patellatendon-bone graft	97

Fig. No.	Title	Page
49	Anteroposterior (A) and lateral (B) postoperative radiographs following chronic posterolateral corner and double-bundle posterior cruciate ligament reconstruction	98
50	A custom medial unloading brace	100
51	Patellar mobilization	101
52	Electrical muscle stimulation and biofeedback	102

## List of Abbreviations

PLC	Postero Lateral Corner,
PCL	Posterior Cruciate Ligament
ACL	Anterior Cruciate Ligament
IKDC	International Knee Documentation Committee
LCL	Lateral Collateral Ligament
PFL	Popliteo Fibular Ligament.
PLI	Postrolateral instability.
ITB	Iliotibial band
РТ	Popliteo tibial