



## SECRETARY MESSAGE

Dr. G. G. Kar

Greetings of a new year from the desk of the Secretary, Kolkata Arthroscopy and Sports Surgery Society. Half of the present decade is now history. Our society has achieved some, and strive to achieve more. I still remember the days in the last millennium when the interest and infrastructure in this superspeciality branch were scarce. Arthroscopy was regarded as something to be performed by a niche group of people with tunnel vision. No more. We have a balanced mix of enthusiast young brigade, middle-aged consultants with zero ego and experienced seniors who enrich and encourage all. Expertise fostered infrastructure. Now our members perform world-class surgeries as routine work. In every conference, workshop and webinar hosted by us, we see roomfull of bright, young, eager eyes. Participation goes beyond the boundary of our state. We have the responsibility to match our delivery to their demand. I am sure KASS will live up to that. The biggest event of Arthroscopy of the country, IASCON, is going to be hosted by us this year. Yet, the pressure of organising that blockbuster didn't shift our academic focus. One of the evidence is right in front of you, the KASSCOPE. Its the place for exchange of ideas and trends. A new editor for each edition, that's our vision. The earlier edition was very popular and I hope this one will be even more so. Delve into this issue and enrich us by your feedback and articles. See you in the next KASSCOPE!

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## Piece of Mind

Dr Anando Mondol

The knee is the largest joint in our body and is also vital for locomotion. The ligament injury of the knee is a very common problem to a sports person and also after RTA. Results from multiple ligament surgery are not as consistent as single ligament injury. In the past multi ligament injury would put an end to the future sports activities.

The prevalence of articular cartilage lesions increases after ligament injury of the knee, so it is important to treat the ligament injury as early as possible and research to be continued regarding the prevention and treatment of degenerative changes of articular cartilage.

Here is a story of a sports person and the consequences of ligament injury of her knee. At 19 years old Carol Chen was an athletic college student involved in a variety of sports including running, biking, hiking, skiing and snow boarding. One of her favourite recreational pastime was ultimate Frisbee, a high-energy team field sport that asks rules and co-operation to the traditional disc throw.

It was 1998 her sophomore year. During a game of ultimate, Carol stopped suddenly. causing her leg to twist and her knee to hyperextend. She knew that she had damaged the soft tissue in her joint. Carol suffered an ACL tear, MCL sprain, and tears to her meniscus.

At that time, an MRI scan of Carol's knee suggested a complete tear of her ACL. She had her first of two arthroscopic surgeries. Her orthopaedic surgeon discovered the ACL was only partially torn. He cleaned debris from the knee joint and removed part of her meniscus.

About 18 months later, more of Carol's meniscus tore while walking leading to another arthroscopic surgery. Her knee remained unstable and she suffered joint laxity. In 2005 her partial ACL rupture tore completely.

Carol's surgeon performed a chondroplasty, a reconstructive surgery to help repair damaged cartilage. However, her knee remained

unstable, which she says leads to a painful partial dislocation about once a year.

I used to wear a custom made hinged knee brace, " she says but ditched it in 2010. My knee seemed the same without the brace, so I just play more carefully and lift more weights. My knee definitely aches after activity, and it seems likely this will progress to arthritis.

Today, Carol lifts weights and uses other preventive measures to strengthen her knee and minimize instability and joint laxity, she is able to perform many of the same activities she enjoyed before her original knee injury, but she has greater pain and finds that she is more prone to suffer other injuries.

ACL injuries are common athletic occurrence, and have been linked to an increased rate of degenerative changes and other injuries. There are about 95000 new ACL rupture each year and approximately 60000- 75000 ACL reconstruction are performed annually in U.S .

Carol's injury inspired her to alter her career path from chemical engineering to orthopaedic research. She earned her PhD from the University of California, San Francisco and completed post doctoral research in regenerative medicine at Stanford University. Carol currently works as a field application scientist at Essen Bioscience.

As more and more people, including growing no of children, become increasingly active and sustained all kinds of injuries, it would be helpful if we could understand the progression of arthritis and some of the risk factors for developing arthritis or sustaining injury to the musculo- skeletal system , " she explains. This could benefit those of us who are likely to place an increased burden on our health care system as we age and have more of orthopaedic problem.

Carol hope that the progression of arthritis can be prevented and that research will allow for better treatment to allow her, and others to maintain an active, pain free lifestyle.

# Open Latarjet procedure for recurrent shoulder dislocations with glenoid bone loss : A case report

Dr. Amrish Kr. Jha

## PRESENTATION:

A 28 year old male patient, employed in an office presented me with the history of recurrent shoulder dislocations for last 2 years. There was history of traumatic anterior shoulder dislocation 2 years ago, which was reduced in a medical college & hospital & standard post reduction protocol was followed. Again after few months he met another minor accident and again shoulder was dislocated anteriorly with the same manner of reduction & post reduction protocol as of 1st time. He reported that he suffered numerous anterior shoulder dislocations, which were reduced spontaneously every time. Within 2 years he had a history of approximately 40 anterior dislocations.

## ON CLINICAL EXAMINATION:

Apprehension and Relocation tests were positive for the anterior shoulder instability while a posterior instability could be excluded.

MRI scan displayed a Hill-Sachs lesion of the humeral head and a lesion of the anterior labrum with a possible osseous involvement.

After completing standard X-RAY as well as a CT SCAN that revealed a glenoid rim defect in addition to the above mentioned defects, patient was advised surgery and decided for an open Latarjet procedure based on history of multiple dislocations within 2 years & MRI findings. The EXAMINATION UNDER ANAESTHESIA confirmed the anterior shoulder instability.

## SURGERY

The operation was performed in the beach chair position. After sterile cleaning and draping, deltopectoral approach was selected. After preparation & sectioning of the clavipectoral fascia, coracoid process was exposed. The coracoid process was then transferred to anterior glenoid rim in the anteroinferior position after well preparation of the glenoid rim. Two 4 mm CC screws were used to fix the coracoid process (size). His immediate postoperative Xray showed an optimal position of the coracoid process. After the procedure, his shoulder was immobilized in an arm sling & abduction bump below axilla. Stitches were removed after 2 weeks. Active pendular exercises & passive abduction exercises were started after that. By 4 weeks patient was able to abduct his shoulder upto 90°

On his FOLLOW UP visit three months after the intervention he presented with a satisfying range of motion and without pain (140°

elevation, 120° abduction, 40° external rotation). All instability tests were negative.

A repeat X-ray showed maintained position of coracoid process & good progress of union. Therefore, normal activities were allowed and he was motivated to return to his job.

## DISCUSSION

Anterior glenohumeral dislocations represent the most common of all dislocations. The primary trauma may lead to chronic shoulder instability. Bone defects of the glenoid rim are a frequent result of recurrent dislocations in the shoulder joint. A reconstruction of the osseous lesions is recommended in patients with relevant bone loss. The Latarjet procedure has been described as feasible option for treating shoulder instabilities even after failed operative repair. In addition to the osseous enlargement of the glenoid rim, the sling effect of the conjoined tendons is considered an essential part for regaining stability of the shoulder joint. Therefore this procedure was opted in this case with approximately 40 dislocations & significant glenoid bone loss. It can be debated which operative technique would have been most suitable (as lot many procedures are there with good results) but as per my take Latarjet procedure should be considered as 1st choice in such situations. Again arthroscopic Latarjet is there, although very few surgeons have expertise in that, future remains there.

## CONCLUSION

Traumatic glenohumeral dislocation or chronic glenohumeral dislocation/subluxation can cause damage to or fracture the glenoid rim. The resulting bone loss leads to anterior instability that cannot be corrected with soft tissue/labral repair alone. Thus, an open Latarjet/Coracoid Process Transfer is performed based on preoperative diagnostic imaging and sometimes arthroscopic evaluation of the percentage of bone loss. The increase in bone area by securing the coracoid to the glenoid and resultant soft tissue sling from tendon attachments on the coracoid leads to a stabilized glenohumeral joint. The success rate of this procedure has been reported as high as 99-100%

## CONSENT

Written informed consent was obtained from the patient for publication of this case report.



1st 'KASS Arthroscopy & Arthroplasty' fellow  
Dr Abhinay Singh with Guide Dr Kanchan Bhattacharya



1st 'KASS Arthroscopy' fellow Dr Mrityunjay Ray  
with Guide Dr Debashish Chatterjee

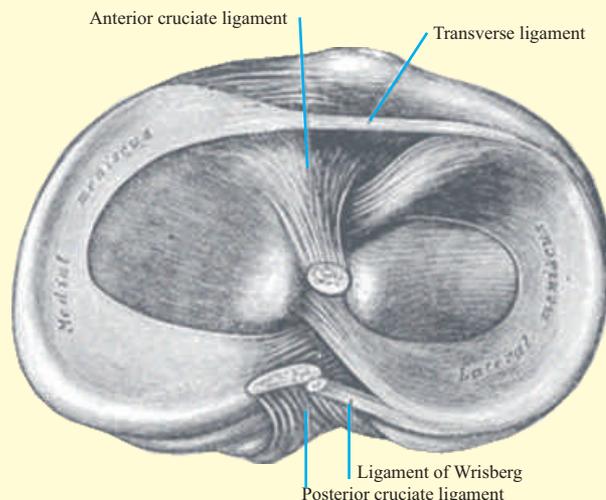


1st 'KASS Rotating fellow'  
Dr Arindam Mukherjee

# Current concepts in meniscal repair:

Dr. Amrish Kr. Jha

Menisci are crescents, roughly triangular in cross section, that cover 1/2-2/3rd of articular surface of the corresponding tibial plateau. They act as shock absorbers and compensate for joint incongruity between tibial and femoral articular surfaces. They play an important role as rotatory stabilizers, particularly in anterior cruciate ligament (ACL) deficient knees and in nutrition of the articular cartilage.



Meniscus is usually torn by a rotational force on partially flexed knee with the meniscus being trapped between femur and tibia and getting torn as the knee is extended. Acute tears can be radial, vertical circumferential or horizontal-cleavage. Degenerative tears tend to be complex in morphology and occur mostly in the posterior horn.

The usual complaints of the patients include mechanical locking of the joint and recurrent joint effusions. Numerous tests are described for diagnosis which include Mc Murrays test, Apley's test, Ege's test, Thessaly's test and joint line tenderness. Non-invasive investigations like ultrasonography and MRI scan is widely considered as a reliable method for diagnosing these tears.

Traditionally, all meniscal tears had been treated surgically by meniscal excision (meniscectomy) with open or arthroscopic technique. Arthroscopic technique results in a significant reduction in the hospital stay, and an earlier return to work and sports. Hede et al reported that function of knee was inversely related to the amount of tissue resected. They also observed lower knee scores after partial meniscectomy for posterior horn tears, compared with those with either anterior horn or bucket handle tears. The results after lateral meniscectomy have been reported to be worse. Meniscectomy in the presence of ACL deficiency hastens the progress towards development of arthritis.

## Meniscal repairs:

A better understanding of the function has led to the development of new meniscus preserving interventions. Success rates depends on the size and location of the lesions. From the basic sciences and the clinical outcome studies, a tear in the red-red zone has higher healing potential than a tear in the white-white zone because of limited vascularity.

## Indications:

Location :The ideal type to consider repairing is the peripheral tear (red on red tear). This tear is amenable only to suture repair. Most commonly tear is in the red on white region which also has an acceptable successful repair rate.

## Morphology of the tear:

- Size - short tear (1-2 cm) has a better successful repair rate
- Appearance - vertical longitudinal tear is ideal for repair

## Patient factors:

- Non compliant patient should not be considered for repair.
- The younger patient has a higher success rate.

Thus, the best candidate for meniscal repair is the young compliant patient with a 2 cm long peripheral longitudinal meniscal tear. Meniscus repair is more important on the lateral side. Shorter than 1 cm stable tear associated with ACL tear can be left alone.

## Techniques of Repair

Arthroscopic techniques include-

1. Inside-out repairs,
2. Outside-in repairs and
3. All-inside repairs.

### Inside-out repair

The arthroscopic inside out suture repair originally described by Henning is the gold standard. Multiple vertical loops of nonabsorbable material placed 5 mm apart on the superior and inferior surface provides the best repair. The medial meniscus is repaired in extension and lateral meniscus in figure of '4' position.

### Outside-in meniscus repair

Compared with the inside-out approach, the outside- in technique requires no rigid cannula. In this technique, two spinal needles enter the joint under direct visualization minimizing the risk of articular injury. Furthermore, the outside-in technique requires only a small incision to tie sutures over the capsule, obviating the need for a large incision, dissection, and the use of retractors. Morgan et al had shown excellent clinical results in 98.6% of 70 patients at an average 18-month follow-up.

The rate of successful repair with outside-in technique is highest in those patients who had concomitant reconstruction of the ACL and lowest in patients with unstable knees. The highest rate of failure is noted in repairs of the posterior horn of the medial meniscus, particularly in the setting of injury to the ACL. The orientation of sutures used for repairing tears of the far posterior zone of medial meniscus providing less secure apposition may explain the inferior results of repair in this region. As a result, the inside-out technique may be a better choice when repairing tears in this area.

### All inside meniscus repairs

All-inside repairs are becoming more common with the inventions of various implants including meniscal arrows, screws, staples, and other suture devices. Advantages of this technique include no need to place additional incisions especially with concomitant ACL reconstructions and a lesser surgical time. Relative contraindications include a true menisco-capsular separation. In these situations one should consider suture instead. In addition, tears extending to the anterior horn are near impossible to access by all-inside methods.

In study by Haas et al, success rate of 80% in isolated tears and 91% in patients with concomitant ACL tears was seen using Fast T- fix system. Device failure ranges from 0%-43.5%. Complications includes cartilage damage from the implant, loose bodies inside the joint, partial healing or no healing, skin penetration. Based on current data conclusions regarding which all inside devices have lowest failure rate cannot be made. Also, the lack of randomized clinical trials prohibit one from making recommendations on using one particular all-inside meniscus repair device versus another.

### Future – Meniscus Transplantation

Despite recent advances, a large proportion of meniscus tears observed at arthroscopy remain irreparable, and partial, subtotal or even total meniscectomy is often required to relieve pain and mechanical symptoms of a displaced tears. In these situations meniscus transplantation offers a potential alternative to the known negative consequences of total meniscectomy. The primary indication of this procedure is a complete or near-complete meniscectomy with pain in the involved compartment before the development of moderate to severe arthrosis in an active patient.

Most of grafts are used fresh or are cryo-preserved. Secondary sterilisation of graft with gamma radiations should be used to prevent disease transmission. Principles of fixation involve use of strong sutures placed in vertical-mattress fashion, tied over the joint capsule, with accurate reestablishment of native meniscal horn insertions. Methods used include use of bone tunnels and bone bridge techniques that leave anterior and posterior horns attached not only to meniscal cartilage, but also to one another. Complications of meniscus transplantation include graft tearing, infection and immunological reactions. Graft tear is managed on principles of native meniscal tears by either meniscal repairs or partial meniscectomy. The best of available data suggests that meniscus transplantation will likely provide short or medium term symptomatic improvement in knee function, based on subjective as well as objective measure, at least in short-term.

## MINDBENDERS

### 1. Arthroscope was invented and first used by:

A Takagi B Watanabe C Dandy D Jackson

A First prototype of arthroscope was made and used by Takagi in 1918. Modern day arthroscope was made by Takagi and Watanabe. Dandy, Jackson and Patel are some of the leaders of arthroscopic surgery nowadays.

### 2. What is amateur's corner?

A) The flange of a PTB cast B) Point of weakness behind a spica cast  
C) The corner of a window cut in a above knee cast

B. Most of the orthopaedic surgeons at some time or other in their career have been embarrassed by the disconcerting habit that spicas have of breaking at the hip. This is sometimes caused when a triangular area, commonly known as the "amateur's corner," at the junction of the limb and trunk does not receive its fair share of the plaster. It also results, as Strange pointed out, from the juncture of the body and leg being an open section and thus very much weaker than the circular portions of the cast. To strengthen this weak point, fin like reinforcements are applied anteriorly, posteriorly, and laterally, much in the same way that a walking cast might be reinforced apply a new cast. It is also known as 'residents corner'.

### 3. What is Davis' law?

A) Bone adapts to the stresses placed upon it.  
B) For Osteogenesis to occur, we must apply 60% of the tolerable stresses.  
C) Soft tissue remodels according to the stresses placed upon it.  
D) The stress strain curve is shifted to the left when we apply forces

C. Davis's law is used in anatomy and physiology to describe how soft tissue models along imposed demands. It is the corollary to Wolff's law, which applies to osseous tissue.

### 4. Which is the commonest cause of loose body in the knee joint .

A. Osteochondritis dissecans B. Intraarticular fractures  
C. Synovial osteochondromatosis D. Torn meniscus.

D. Statistically torn meniscus is the commonest cause of loose body in the knee joint Fractures and osteochondritis dissecans are second and third common causes of intraarticular loose body.

### 5. False statement about Humphrey ligament :

A. Posterior menisco-femoral ligament  
B. It is less than 1/3 the diameter of the PCL  
C. It arises from the posterior horn of the lateral meniscus  
D. May be confused for the PCL during arthroscopy;

A. Wrisberg's ligament: is called as posterior meniscofemoral ligament

### 6. Where is comma sign found?

A. Lateral meniscus tear B. PCL avulsion injury  
C. Infraspinatus injury D. Subscapularis injury

D. Subscapularis tears are becoming increasingly recognized as a cause of shoulder pain and disability. However, identifying the subscapularis tendon stump is often difficult during repair of chronic, retracted subscapularis tears that are scarred to the deltoid fascia. The "comma sign," an arc formed by a portion of the superior glenohumeral ligament/coracohumeral ligament complex, to be a useful marker of the superolateral corner of the torn subscapularis tendon

### 7. True about Buford complex all except:

A. congenital glenoid labrum variant where the anterosuperior labrum is absent from 2-5 o'clock position  
B. middle glenohumeral ligament is thickened (cordlike).  
C. It is present in approximately 1.5% of individuals  
D. A Buford complex can be mistaken for a superior labral tear.

A Buford complex is a congenital glenoid labrum variant where the anterosuperior labrum is absent in the 1-3 o'clock position.

### 8. What is Runner's fracture?

A. Stress fracture of distal tibia B. Stress fracture of distal fibula  
C. Stress fracture of lower pole patella D. Stress fracture of 2nd metatarsal

B. Stress fracture of distal fibula 3-8 cm above the lateral malleolus is known as Runner's fracture.

## UPCOMING EVENTS

### CCT 2016 Kolkata (Current Concepts in Trauma)

1st April to 3rd April 2016,  
19th Annual Conference of  
Trauma Society of India  
Hotel Hyatt Regency, Kolkata

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## TRAUMA UPDATE 2016

5th-7th August 2016 , HYATT REGENCY, Kolkata  
2nd National Conference of AOTS  
(Association of Orthopedic Trauma Surgeons)

### WORK SHOP Leicester Shoulder Course

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THEME –Upper Limb Trauma  
HYPERFOCUS – Shoulder injuries  
In association with WBOA & KASS

## KASS TALKS – SEASON-II

Master class series with eminent teachers and experts in the field of Arthroscopy and sports surgery.

### Starting March 2016

NRS Medical College ( Convenor Dr Sanjay Kumar)  
RGKar Medical College ( Convenor Dr Sunit Hazra)  
Calcutta Medical college ( Convenor Dr Rajeev Raman)  
Apollo Gleneagles Hospital ( Convenor Dr Abheek Kar)

## IASCON 2016, KOLKATA

29<sup>TH</sup> Sept – 2<sup>ND</sup> October, 2016, HYATT REGENCY, Kolkata  
15<sup>th</sup> Annual conference of Indian Arthroscopy Society

### PROGRAM HIGHLIGHTS

6 Preconference Workshops / 20 Live Surgeries  
15 Panel Discussions / 9 Debates  
Free Papers / Poster sessions / Young Surgeons Forum  
Awards and Fellowships / Ganges By the evening

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