




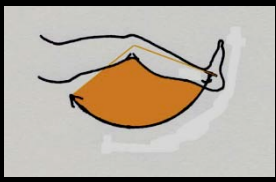
## STIFFNESS AFTER LIGAMENT RECONSTRUCTION: ARTHROSCOPIC ARTHROLYSIS RESULTS

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LACK OF EXTENSION: 46%



- Almost after ligament surgery (near 100%)



Lack of extension  
Flexion is normal


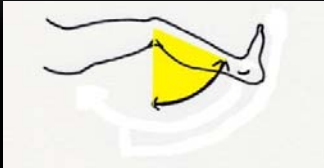
LACK OF FLEXION: 21%

Lack of flexion, extension is normal  
 After ligament surgery 29%  
 After Fractures 47%  
 Other 24%






COMBINED STIFFNESS : 33%

After ligament surgery : 52%  
 After Fractures : 25%  
 Others : 23 %

CRPS ++

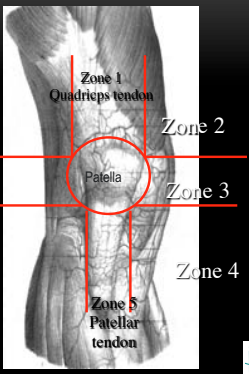



### STIFFNESS ANATOMICAL STUDY :



**Zone 2:** suprapatellar pouch, lateral gutters, superior part of retinaculum

**Zone 3:** retinaculum and lateral gutter;

**Zone 4:** menisco patellar ligament



Guillon , al , 2002

### STIFFNESS: ANATOMICAL STUDY:

Four important structures to release:

- supracondylar pouch
- Zone 2
- Meniscopatellar ligament

Consequences of retraction

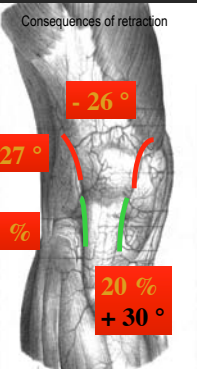
- 26 °



- 27 °

15 %

20 %

+ 30 °



### ARTHROSCOPIC ARTHROLYSIS: PRINCIPES





- In patient surgery
- As soon as possible in operative program to allows immediate rehabilitation
- General anesthesia or epidural anesthesia
- Tourniquet
- Begin by passive ROM measure (should be noted in operative report)







### FIRST STEP: QUADRICEPS POUCH RELEASE


- Begin by a **blind procedure** using arthroscopic canula and trocar
- Secondary, **careful pouch cleaning with a shaver is done**, always under visual control (to avoid chondral damage)


### LACK OF EXTENSION



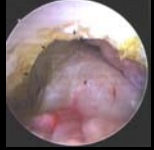


Excision of cyclops syndrome



Excision of Hoffa's pad



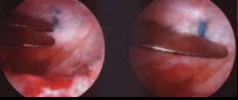





Partial ACL transplant excision and for notchplasty

### LACK OF FLEXION

- Standard antero-lateral and antero-medial approach
- Superomedial and supero-lateral approach
- 1) lateral gutters release:
  - Shaver, scissors and rasp
- 2) Reticular release (lateral and medial)
  - superior edge of patella through tibia

### IN EACH CASE:

- Procedure is completed by a gentle mobilization
- Post-operative ROM are noted in operative report
- « **No more mobility should be obtain by rehabilitation** »






### POST-OPERATIVE CARE

- ~~Articular effusion drainage : 24 to 48 h~~
- ~~Immediate weight bearing~~
- ~~Immediate passive and active motion~~
  - Positionning cast?
  - Manual mobilization ++
- ~~Prevent post-operative pain:~~
  - Opioids antalgics
  - Anesthetic blocks
  - Femoral catheter
- Rehabilitation : in patient center (France)









### COMPLICATIONS (SFA STUDY 2002)

Early :

- Infection: 3 % ( intrarticular 2%)
- Hematoma: 10 %
- CPRS: 1%



Patient should be prevent of this risks

### RESULTS :

	Ext gain	Flex Gain	Subjective R	Pre-pos op gain (%)
LE	8,7 ± 6,6		97%	65,7%
LF		48,5° ± 31,3	76%	68,4%
CS	6,3° ± 6,4	24,2 ± 30,5	56%	43%

Maximal ROM possible is the per-operative final ROM






### PROGNOSIS FACTORS

No influence of:

- Age; Working compensation, **CRPS**
- Combined stiffness: inferior results
- Preoperative mobility

SFA STUDY 2002






### RESULTS AND PREOPERATIVE DELAY

(p = 0.004)



	Gain °	Gain%
<3 months	53,4±39	69,6±44
3-6 months	36,7±33	66±40
6-12 months	28,9±32	55±38,8
>12 months	23±24	53,7±36,6

SUPERIOR RESULT BEFORE 6 MONTHS

### CONCLUSIONS:

- Arthroscopic arthrolysis give satisfactory results in cases of stiffness especially after ligament reconstruction surgery.
- Results are better, if arthrolysis is done before 6 months
- Combined stiffness and severe preoperative stiffness had an inferior prognosis
- Is still a place for open arthrolysis?: failure of an arthroscopic arthrolysis could rarely be correct by an open procedure, rule out technical problem during ligament surgery
- Is still a place for posterior arthrolysis? Moves to the next presentation

### THANK YOU !

