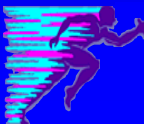


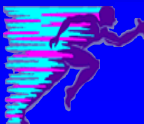
# Treatment of Anterior Interval Scarring

J. Richard Steadman, MD  
Vail, CO



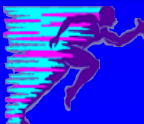
# Anterior Knee Pain after ACL Reconstruction

- Reported incidence: 10-40 %
- Most common complaint after ACL surgery
- Reported after autogenous patellar tendon grafts, hamstring grafts, and allografts
- Can be recalcitrant and disabling



# Technical Steps to Avoid Anterior Knee Pain at ACL Reconstruction

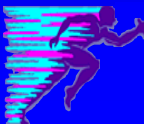
- Bone graft defects  
(bone from drill holes)
- Half thickness closure patellar tendon
- Lateral patellar decompression  
(mini-release)
- Patellar mobilization post-op
- Mobility before strengthening



# Anterior Knee Pain after ACL Reconstruction

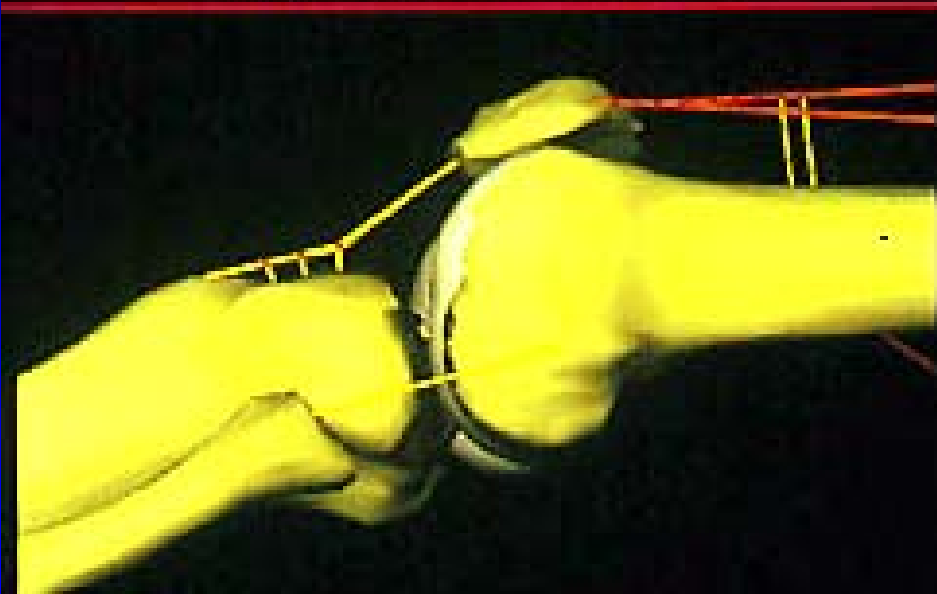
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- Failure of nonoperative treatment may require surgery
- Etiology of anterior knee pain controversial
- Surgical treatment controversial

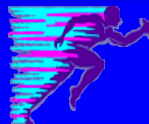


# “Effects of Patellar Tendon Adhesion to the Anterior Tibia on Knee Mechanics”

## KNEE COMPUTER MODEL With Adhesions

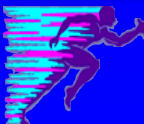


- Subtle patella infera
- Increased *patellofemoral* joint reaction force

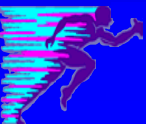


# “Effects of Patellar Tendon Adhesion to the Anterior Tibia on Knee Mechanics”

- Altered *patellofemoral* contact force
- Significant effects on *tibial* kinematics and *tibiofemoral* contact



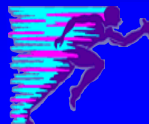
# VIDEO 1: Effects of Patellar Tendon Adhesions on Patellofemoral Mechanics



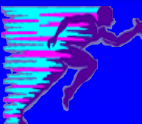
# “Anterior Interval Release”

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- **Patients with anterior knee pain after ACL reconstruction**
- **All ACL procedures autograft BTB**
- **Same post-ACL rehabilitation program emphasizing early motion**



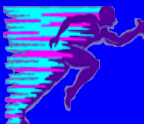
## VIDEO 2: Examination of Patellar Mobility



# “Anterior Interval Release”

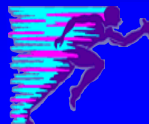
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- All patients underwent arthroscopic evaluation and treatment by the senior surgeon
- All patients treated within one year of ACL
- Minimum postoperative followup: 2 years



# Surgical Technique

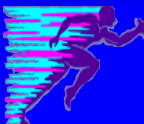
- “High” inferolateral arthroscopic viewing portal
- Release of infrapatellar adhesions between anterior tibia and retropatellar fat pad (the “anterior interval”)



# Surgical Technique

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Release should not  
effect meniscal  
attachments



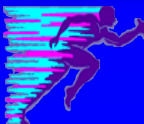
# VIDEO 3: Anterior Interval Release



Infrapatellar Plica

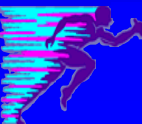


Excision of Plica



# Postoperative Rehabilitation

- Aggressive emphasis on passive patellar mobility and excursion
- Mobilization of the patellar tendon

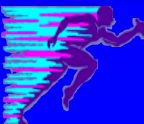


# RESULTS

**Average Patient  
Satisfaction = 8.0**

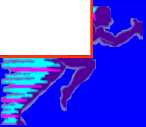
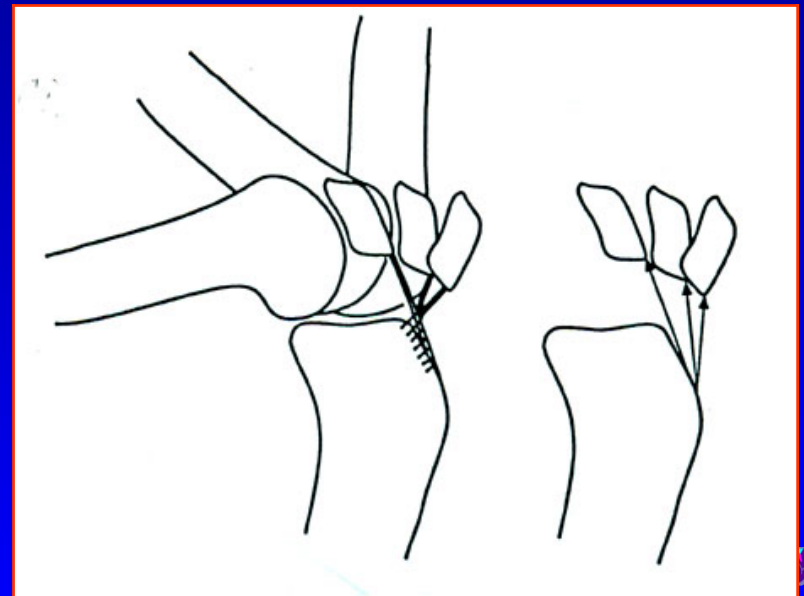
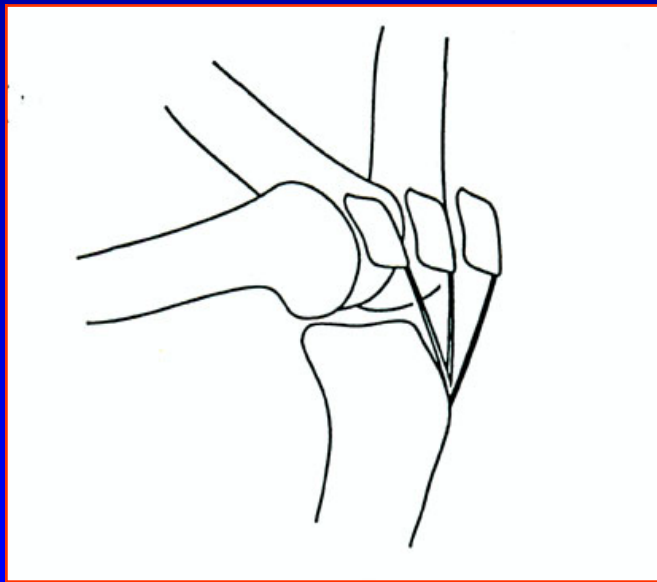
**1=very dissatisfied**

**10=very satisfied**



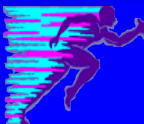
# SUMMARY

**Pretibial patellar tendon adhesions after ACL reconstruction can be a debilitating source of anterior knee pain and poor functional results**



# SUMMARY

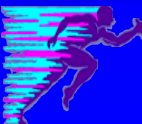
**Early operative intervention with an anterior interval release has resulted in significantly improved functional outcomes in these patients**



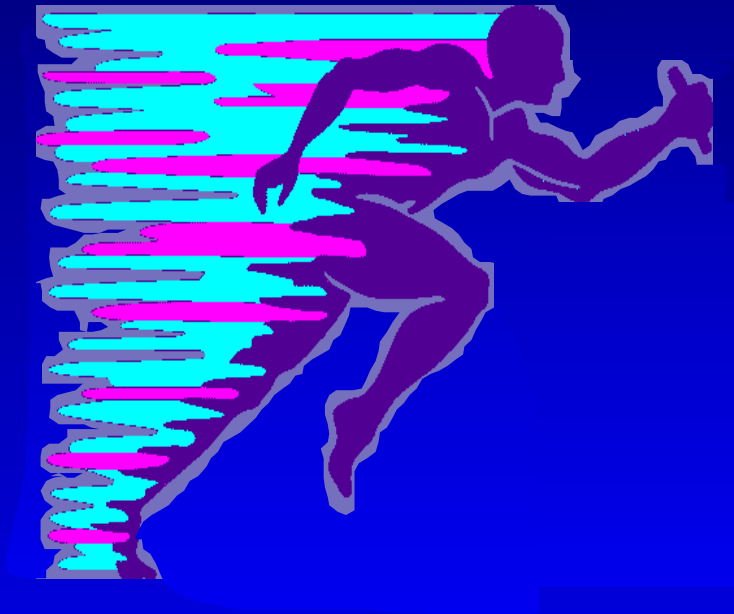
# SUMMARY

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**Rarely, tendon sheath and  
patellar tendon debridement  
may be necessary**



# Steadman ♦ Hawkins Sports Medicine Foundation



**Dedicated to Keeping People Active**

