

INSTITUTO WILSON MELLO FISIOTERAPIA



LUIZSCOLA
FISIOTERAPEUTA | MSC



CINETICSPHYSIO



SANTA CASA
de São Paulo

Reabilitação em lesões meniscais

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Especialista em fisioterapia
musculo esquelética- ISCMSP

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Validity of the Thessaly Test in Evaluating Meniscal Tears Compared With Arthroscopy: A Diagnostic Accuracy Study

Sports injury, occupational physical activity, joint laxity, and meniscal damage.
Baker P¹, Coggon D, Reading J, Barrett D, McLaren M, Cooper C.

Menisco

- UK: 50.000 cirurgias/ano.
- Holanda: 25% das cirurgias de joelho são meniscais.
- Uma das cirurgias mais realizadas nos EUA.



2

Menisco

Return to Play Following Meniscus Surgery



Alaina M. Brelin, MD*, John-Paul H. Rue, MD

KEYWORDS

• Meniscus • Athlete • Sports • Return to play • Repair • Transplant • Meniscectomy

1/3 destas são lesões relacionadas ao esporte.

3

Menisco

Risk factors, diagnosis and non-surgical treatment for meniscal tears: evidence and recommendations: a statement paper commissioned by the Danish Society of Sports Physical Therapy (DSSF)

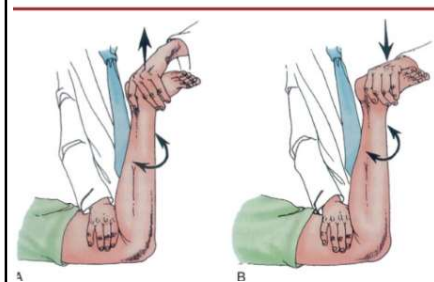
Fatores de risco

Table 1 Summary of evidence and evidence levels for risk factors for meniscal tear

Risk factor	Interpretation	Studies (n)	Quality of evidence
Overweight	Associated with increased risk	3	Low
Male sex	Associated with increased risk	4	Low
Age	Conflicting evidence	5	Low
Trauma type	Associated with increased risk	2	Low
Sports participation	Associated with increased risk	3	Low
Time from ACL injury to reconstruction	Conflicting evidence	9	Low
Generalised joint hypermobility	Associated with increased risk	1	Low
Occupational activity	Associated with increased risk	3	Low

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Teste de Apley



Menisco



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Menisco



Acurácia diagnóstica

A systematic review and meta-analysis of the diagnostic accuracy of MRI for suspected ACL and meniscal tears of the knee

Nigel Phelan¹ · Patrick Rowland¹ · Rose Galvin² · John M. O'Byrne³

Menisco lateral

LR+ 14,5 (CI 8,7-24,3)

LR- 0,2 (CI 0,2- 0,4)

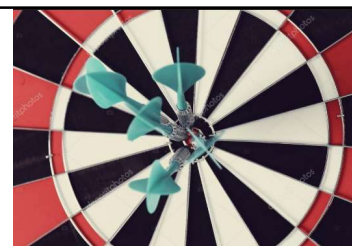
Menisco medial

LR+ 7,98 (CI 4,7-13,4)

LR- 0,1 (CI 0,7-0,2)

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Menisco



Acurácia diagnóstica

Systematic review



CrossMark

Special tests for assessing meniscal tears within the knee:
a systematic review and meta-analysis

Benjamin E Smith,¹ Damian Thacker,² Ali Crewesmith,¹
Michelle Hall³

Apley, McMurray,
Interlinha dolorosa e
Thessaly

9 estudos incluídos

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Menisco

Systematic review



Special tests for assessing meniscal tears within the knee:
a systematic review and meta-analysis

Benjamin E Smith,¹ Damian Thacker,² Ali Crewesmith,¹
Michelle Hall³

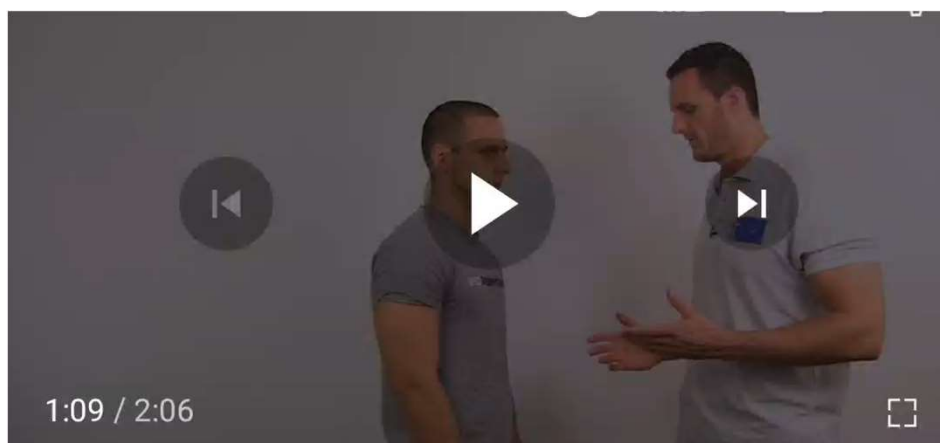
Acurácia diagnóstica

Table 3 Summary of sensitivity, specificity, likelihood ratios and heterogeneity

	Sensitivity (95% CI)	Specificity (95% CI)	LR+ (95% CI)	LR- (95% CI)	I ² (%)
McMurray's	61% (45% to 74%)	84% (69% to 92%)	3.2 (1.7 to 5.9)	0.52 (0.34 to 0.81)	51
JLT	83% (73% to 90%)	83% (61% to 94%)	4.0 (2.1 to 7.5)	0.23 (0.12 to 0.44)	83
Thessaly 20°	75% (53% to 89%)	87% (65% to 96%)	5.6 (1.5 to 21.0)	0.28 (0.11 to 0.71)	94

JLT, joint line tenderness; LR-, negative likelihood ratio; LR+, positive likelihood ratio.

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Tratamento conservador X cirúrgico



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The American Journal of Sports Medicine

<http://ajs.sagepub.com/>

The Urgent Need for Evidence in Arthroscopic Meniscal Surgery: A Systematic Review of the Evidence for Operative Management of Meniscal Tears

Paul Monk, Patrick Garfield Roberts, Antony J.R. Palmer, Lee Bayliss, Reza Mafi, David Beard, Sally Hopewell and Andrew Price

Am J Sports Med published online July 18, 2016

DOI: 10.1177/0363546516650180

The online version of this article can be found at:

<http://ajs.sagepub.com/content/early/2016/07/15/0363546516650180>

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Tratamento conservador X cirúrgico

CONCLUSION

Contemporary arthroscopic surgical practice clearly has been influenced by evidence-based medicine. Notably, the role of arthroscopic lavage in the treatment of degenerative arthritis, once considered therapeutic, has been phased out in the face of overwhelming evidence to the contrary.¹⁹ In a similar way, the indications for meniscal surgery are evolving as further evidence is produced. **High-level evidence now exists demonstrating that meniscectomy is not superior to nonoperative therapy as the initial treatment for patients with a painful knee and MRI evidence of meniscal tear in a degenerative knee.**¹⁷ Given current evidence, the focus of meniscectomy should be patients with mechanical symptoms who do not improve with initial non-operative measures; further evidence should be urgently sought to support this statement in treatment guidelines for this cohort of patients. In particular, the definition of mechanical symptoms and the influence of pattern of tear on patient outcome need to be explored. In the case of a patient with a bucket-handle tear and locked knee, arthroscopic surgery is recommended. Indeed, an RCT of patients with extreme mechanical symptoms cannot be performed due to ethical reasons if the knee remains locked. However, this is not the case in the majority of

Evidências de alto nível demonstram que a meniscectomia não é superior a tratamentos conservadores para lesões meniscais degenerativas

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Meta-analysis

Arthroscopic Meniscectomy or Conservative Management for Degenerative Meniscus Tears

Published in final edit
N Engl J Med. 2017

ORIGINAL RESEARCH ARTICLE

Effect of Exercise Therapy Compared with Arthroscopic Surgery on Knee Muscle Strength and Functional Performance in Middle-Aged Patients with Degenerative Meniscus Tears

A 3-Mo Follow-up of a Randomized Controlled Trial

Nina Jøllum Kise,
Ewa M Roos

Arthroscopic partial meniscectomy for degenerated patients: randomised

1stam, Lars Engebretsen, 367

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A Comp.

Ji-Hyeon Yim,

Jun Seon, Eun-Kyoo Song, Jun-Ik Cho,

Meniscectomy and N

Tears of the M

reatment for Degenerative Horizontal

iscus

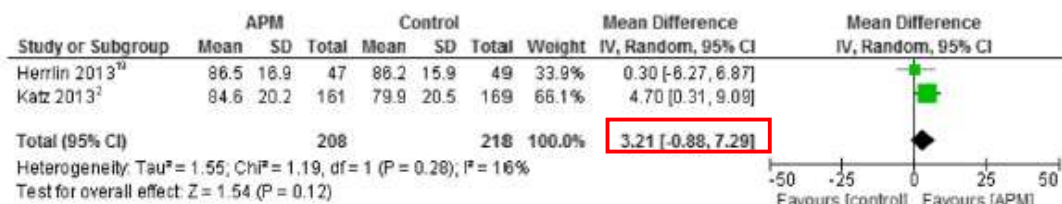
Cheol Kim, Keun-Bae Lee and Hyoung-Yeon

Am J Sports Med 2013 41: 1565 originally published online May 23, 2013

DOI: 10.1177/0363546513488518

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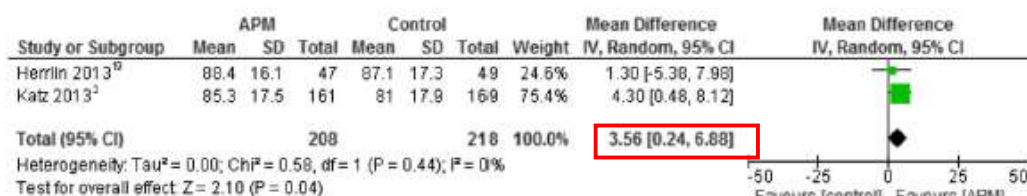
Tratamento conservador X cirúrgico



Comparison WOMAC physical function and KOOS ADL – 2-3 months

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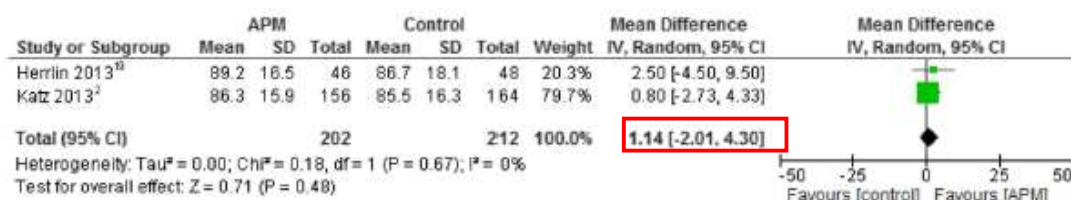
Tratamento conservador X cirúrgico



Comparison WOMAC physical function and KOOS ADL – 6 months

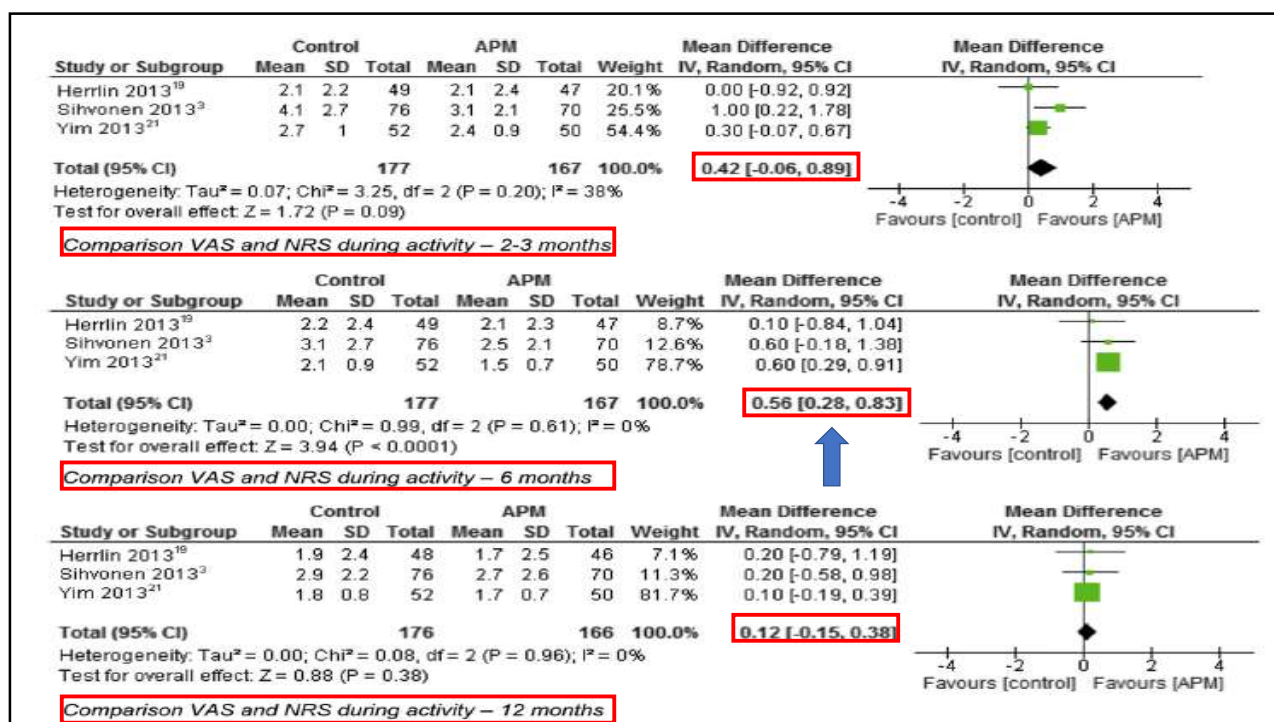
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Tratamento conservador X cirúrgico



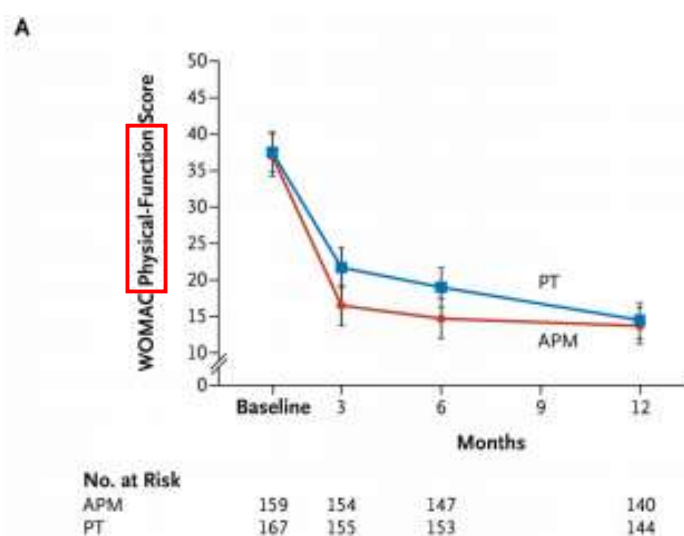
Comparison WOMAC physical function and KOOS ADL – 12 months

16



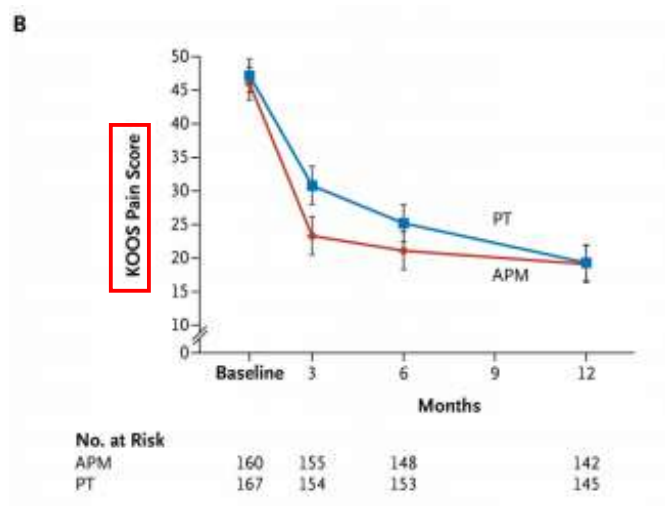
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Tratamiento conservador X cirúrgico



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Tratamento conservador X cirúrgico



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Tratamento conservador X cirúrgico

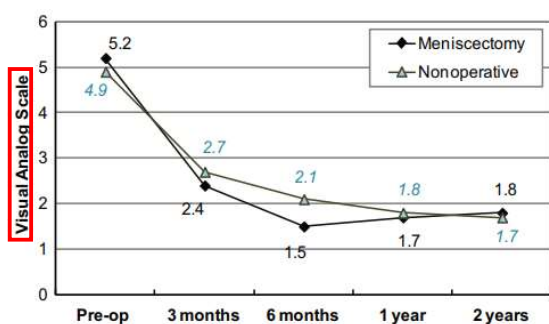


Figure 3. Mean changes in visual analog scale scores during follow-up examinations.

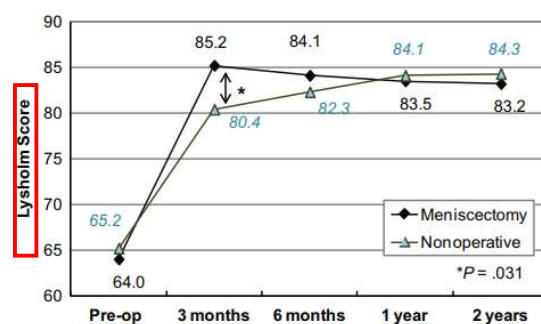


Figure 5. Mean changes in Lysholm knee scores after follow-up examinations.

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Tratamento conservador X cirúrgico

CIRURGIA

REABILITAÇÃO



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Tratamento conservador X cirúrgico

Original article

Temporal trends and regional variation in the rate of arthroscopic knee surgery in England: analysis of over 1.7 million procedures between 1997 and 2017. Has practice changed in response to new evidence?

Simon G F Abram,¹ Andrew Judge,^{1,2} David J Beard,¹ Hannah A Wilson,¹ Andrew J Price¹

Br J Sports Med: first published as 1

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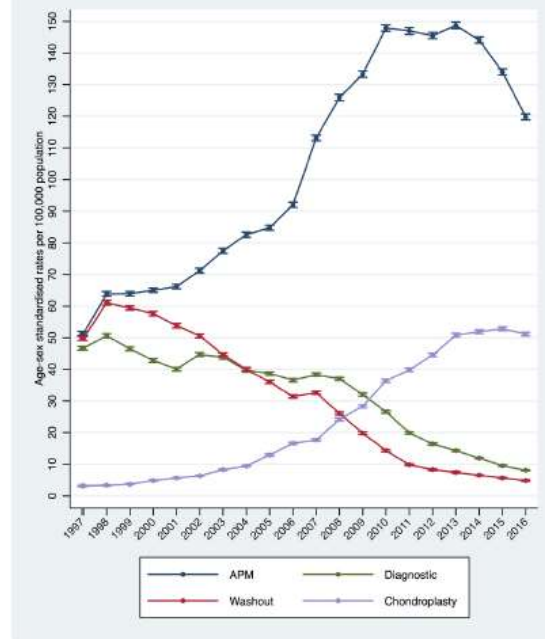


Figure 1 Age-sex-standardised rates of arthroscopic procedures per 100 000 population. APM, arthroscopic partial meniscectomy.

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Tratamento conservador X cirúrgico

Risk factors, diagnosis and non-surgical treatment for meniscal tears: evidence and recommendations: a statement paper commissioned by the Danish Society of Sports Physical Therapy (DSSF)

Jonas Bloch Thorlund,¹ Carsten Bogh Juhl,^{1,2} Lina Holm Ingelsrud,^{1,3}
Søren Thorgaard Skou^{1,4}

Lesões meniscais traumáticas

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Tratamento conservador X cirúrgico

There was no evidence from randomised trials to determine the best treatment (surgical or non-surgical) for patients younger than 40 years or with a traumatic tear. Findings from previous trials on treatment of meniscal tears in middle-aged or older patients with a degenerative meniscal lesion cannot be generalised to this population. Traditionally, younger patients or patients with a traumatic tear have been treated with meniscal repair or resection, and have been considered to have larger benefit of surgery compared with patients with degenerative lesions. However, patients with traumatic and degenerative tears up to 52 weeks have been reported to have similar improvements after arthroscopic partial meniscectomy, challenging this assumption.⁷⁰

The recently developed Danish national clinical guideline for treatment of meniscal tears¹² recommends that patients with traumatic tears be offered exercise and other non-surgical treatments, unless the knee is locked (self-reported by the patient and confirmed by the clinician) (based on expert opinion). Knee locking is suspected to be caused by meniscal fragments or a displaced bucket handle tear.



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Tratamento conservador X cirúrgico



Não existem evidência da diferença entre tratamento conservador e cirúrgico para **dor e funcionalidade a longo prazo** em **lesões degenerativas de menisco**.

Não se sabe qual a melhor intervenção para lesões meniscais traumáticas.

Contudo, **a cirurgia é indicada como primeira opção** em caso de **bloqueio articular**.

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Reabilitação



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Scand J Med Sci Sports 2009; 19: 156–165
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SCANDINAVIAN JOURNAL OF
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 IN SPORTS

Effects of functional exercise training on performance and muscle strength after meniscectomy: a randomized trial

Y. B. Ericsson¹, L. E. Dahlberg¹, E. M. Roos^{2,3}

¹Department of Orthopedics, Malmö University Hospital, Lund University, Lund, Sweden, ²Institute of Sports Science and Clinical Biomechanics, University of Southern Denmark, Odense, Denmark, ³Department of Orthopedics, Clinical Sciences Lund, Lund University, Lund, Sweden

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Accepted for publication 21 January 2008

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Objetivos



ADM

Força muscular

Sensório motor e equilíbrio

Estabilidade funcional

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1. Considerar o status pré lesão



Rehabilitation of Meniscal Injury and Surgery

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J Knee Surg 2014;27:439-478.

Address for correspondence: John T. Cavanaugh, PT, MEd, ATC, SCS, Sports Rehabilitation and Performance Center, Hospital for Special Surgery, 535 East 70th Street, New York, NY 10021

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2. Ciência básica sobre reabilitação



Rehabilitation of Meniscal Injury and Surgery

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J Knee Surg 2014;27:439-478.

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2. Ciência básica sobre reabilitação

Explicação

Nocebo

Limitações durante a reabilitação.
Por que são importantes?

Informações que podem levar o paciente a se sentir fragilizado



Rehabilitation of Meniscal Injury and Surgery

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3. Trabalho em equipe



Rehabilitation of Meniscal Injury and Surgery

John T. Cavanaugh, PT, MED, ATC, SCS¹

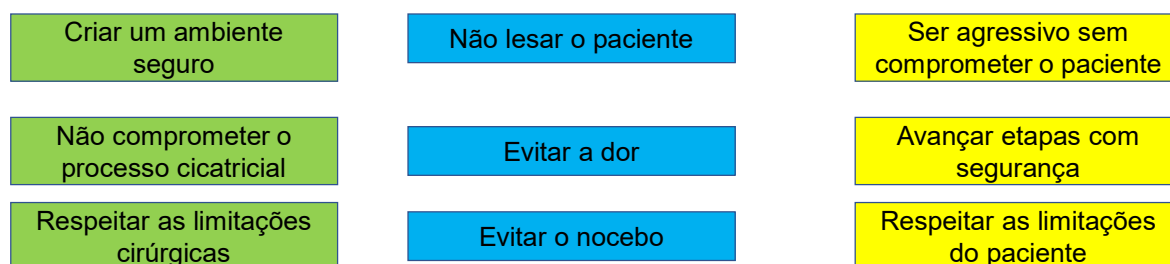
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J Knee Surg 2014;27:439-478.

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4. “Regras” da reabilitação



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J Knee Surg 2014;27:439-478.

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5. Progressão funcional

Realizar uma atividade “simples” antes da atividade “complexa”



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J Knee Surg 2014;27:459–478.



5. Progressão funcional

1. Controle e força de quadríceps.
ADM

SLR sem sinal de lag

2. Marcha normal sem dor

3. Subir e descer escadas

Controle excêntrico de quadríceps

4. Corrida

Sem dor e com padrão normal

5. Pliometria e gesto esportivo

Sem dor

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6. Guidelines

Evitar receitas de bolo



Retirar as muletas na 4ª semana

Retirar as muletas entre 3ª e 5ª semanas em caso de marcha normal.

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Tratamento conservador

Dor

Edema

ADM

Fraqueza

Inibição muscular

Função

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Tratamento conservador

Dor



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Tratamento conservador

Dor

Edema



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Tratamento conservador

Dor

Edema

ADM

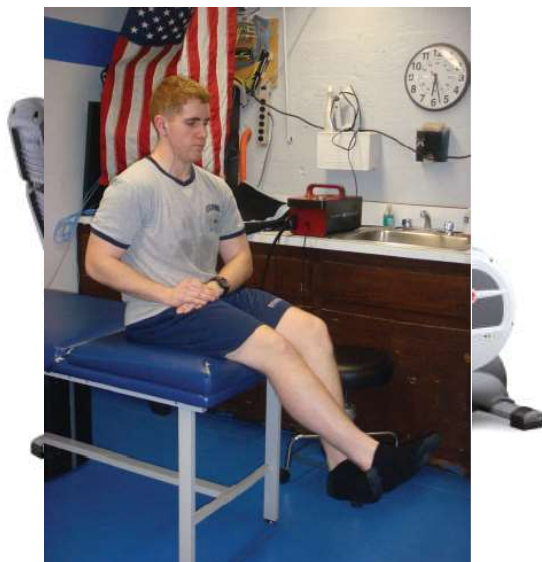
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Tratamento conservador

Dor

Edema

ADM

Fraqueza

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Tratamento conservador

Dor

Inibição muscular

Edema

ADM

Fraqueza



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Tratamento conservador

Dor

Inibição muscular

Edema

Função

ADM

Fraqueza



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Meniscectomia

Fase 1 (0-3 sem)

Objetivos:

1. Controle de dor e edema
2. ADM 0-130 graus
3. Prevenir inibição
4. Ganho de FM
5. Marcha normal

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Meniscectomia

Fase 1 (0-3 sem)



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Retirar assim que possível.

Meniscectomia

Fase 1 (0-3 sem)



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Meniscectomia

Fase 1 (0-3 sem)

Critérios de evolução:

1. Marcha normal
2. FM grau 5 de quadril
3. ADM 0-130 graus
4. Ausência de sinal de lag

Rehabilitation of Meniscal Injury and Surgery

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Meniscectomia

Fase 2 (3-6 sem)

Objetivos:

1. ADM normal
2. Subir e descer escadas sem dor

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Meniscectomia

Fase 2 (3-6 sem)



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Meniscectomia

Fase 2 (3-6 sem)

Cr terios de evolu  o:

1. ADM normal
2. Subir e descer escadas sem dor

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Meniscectomia

Fase 3 (7-? sem)

Objetivos:

1. <15% de d ficit no ISK
2. Subir e descer escadas sem dor e com aus ncia de valgo
3. Retorno as AVD's

Rehabilitation of Meniscal Injury and Surgery

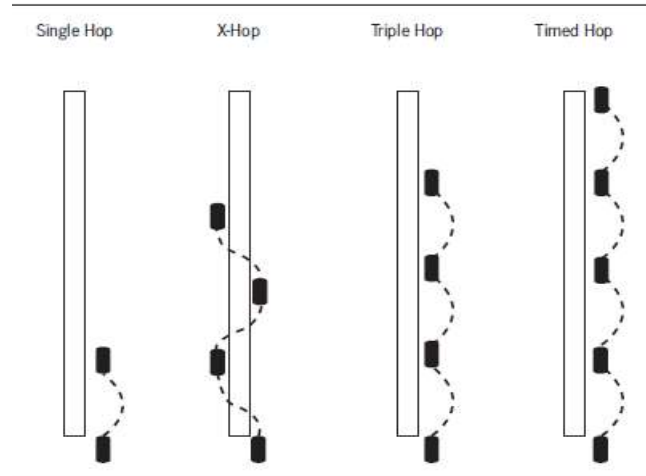
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Meniscectomia

Fase 3 (7-? sem)



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Sutura meniscal



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Sutura meniscal

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Review

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Rehabilitation following meniscal repair: a systematic review

Robert C Spang III,¹ Michael C Nasr,² Amin Mohamadi,² Joseph P DeAngelis,¹ Ara Nazarian,^{2,3} Arun J Ramappa¹

Pacientes pós menisctomia desenvolvem AO de joelho

Sutura meniscal é um procedimento comum

Atenção ao processo de reparo meniscal

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Sutura meniscal

Fatores envolvidos na cicatrização meniscal

1. Região de sutura

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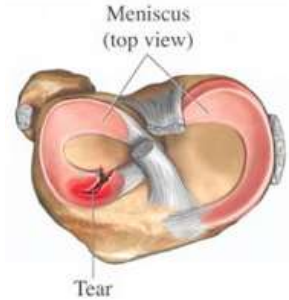
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2. Tipo de lesão

Lesões traumáticas tende a ter melhor cicatrização



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3. Idade

Pacientes mais jovens tendem a não necessitar de re-cirurgia



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3. Idade



[Am J Sports Med](#). 1998 Sep-Oct;26(5):630-3.

Meniscal repair in the young athlete.

[Mintzer CM¹](#), [Richmond JC](#), [Taylor J](#).

26 atletas com 17 anos ou menos.
Follow up de 5 anos.
Nenhum apresentou re-lesão.

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4. ADM

[Arch Orthop Trauma Surg](#). 2005 May;125(4):254-60. Epub 2004 Sep 7.

Measurement of menisiofemoral contact pressure after repair of bucket-handle tears with biodegradable implants.

[Becker R¹](#), [Wirz D](#), [Wolf C](#), [Göpfert B](#), [Nebelung W](#), [Friederich N](#).

Pressão meniscal muda em diferentes graus de flexão

60

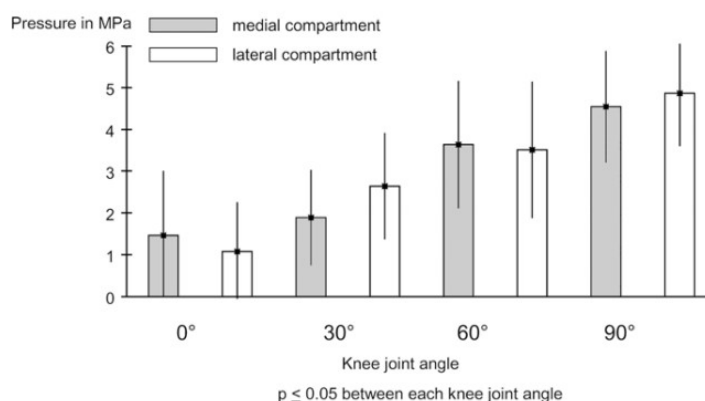
Arch Orthop Trauma Surg. 2005 May;129(4):284-90. Epub 2004 Sep 7.

Measurement of meniscot femoral contact pressure after repair of bucket-handle tears with biodegradable implants.

Baskler R¹, Witz D, Wirth C, Gokelley S, Nishikawa T, Fritzsche N

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Fatores envolvidos na cicatrização meniscal



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5. Descarga de peso

The American Journal of Sports Medicine
<http://ajs.sagepub.com/>

Rehabilitation Protocols After Isolated Meniscal Repair: A Systematic Review
Kevin O'Donnell, Kevin B. Freedman and Fotios P. Tjoumakaris
Am J Sports Med published online October 7, 2016
DOI: 10.1177/0363546516667578

Descarga de peso precoce  Descarga de peso tardia

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Sutura meniscal

Reabilitação acelerada?

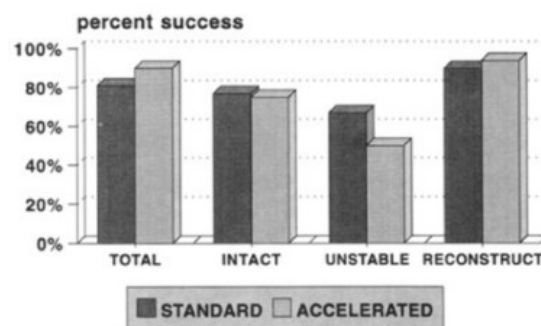
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The American Journal of Sports Medicine

<http://ajs.sagepub.com/>

Não existe consenso sobre o melhor protocolo de reabilitação pós reparo meniscal

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Sutura meniscal

Fase 1 (0-6 sem)

Objetivos:

1. Extensão total
2. Controle de dor e edema
3. ADM 0-90°
4. Inicio do controle de quadríceps

Rehabilitation of Meniscal Injury and Surgery

John T. Cavanaugh, PT, MEd, ATC, SCS¹

¹Sports Rehabilitation and Performance Center, Hospital for Special Surgery, New York, New York
J Knee Surg 2014;27:459-478.

Address for correspondence: John T. Cavanaugh, PT, MEd, ATC, SCS, Sports Rehabilitation and Performance Center, Hospital for Special Surgery, 535 East 70th Street, New York, NY 10021 (e-mail: cavanaughj@hss.edu).

Sutura meniscal

Fase 1 (0-6 sem)

Precauções:

1. Evitar flexão ativa de joelho
2. Evitar marcha sem brace (0-4 sem)

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Sutura meniscal



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Sutura meniscal

Fase 1 (0-6 sem)

Crítérios de evolução:

1. Ausência de sinal de lag
2. ADM 0-90°
3. Descarga de peso unilateral sem dor

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Sutura meniscal

Fase 2 (6-14 sem)

Objetivos:

1. ADM total
2. Marcha normal
3. Subir e descer escadas sem dor
4. AVD's normais

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Sutura meniscal

Fase 2 (6-14 sem)

Precauções:

1. Evitar escadas até que o alinhamento do MI seja mantido
2. Evitar dor durante os exercícios
3. Evitar corridas e atividades esportivas

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Sutura meniscal

Fase 2 (6-14 sem)

Crítérios de evolução:

1. ADM total
2. Marcha normal
3. Subir e descer escadas sem dor
4. AVD's normais

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Sutura meniscal

Fase 3 (14-22 sem)

Objetivos:

1. Correr sem dor
2. <15% de diferença nos hop tests
3. Atividades esportivas sem dor ou apreensão
4. Flexibilidade para o esporte

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Sutura meniscal

Fase 3 (14-22 sem)

Precauções:

1. Exercícios sem dor
2. Não realizar gestos esportivos até que o paciente esteja apto.

Rehabilitation of Meniscal Injury and Surgery

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Sutura meniscal

Fase 3 (14-22 sem)

Crítérios de alta:

1. Correr sem dor
2. <15% de diferença nos hop tests
3. Atividades esportivas sem dor ou apreensão
4. Flexibilidade para o esporte

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Muito obrigado!!

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