

Outpatient TKA in Rheumatoid Arthritis

Prof. N. Reha Tandogan, M.D

Ortoklinik / Çankaya Orthopaedics, Ankara, Turkey



Conflict of interest disclosure form

- I have no potential conflict of interest to report



ÇANKAYA ORTHOPEDICS



Rheumatoid patients

- Increased risk of wound healing problems
 - *Kadota Y. Mod Rheumatol. 2015 Sep;10:1-7.*
- Increased risk of deep infection
 - *Ravi B. Arthritis Rheumatol. 2014 Feb;66(2):254-63.*
- Increased mortality in ankylosing spondilitis
 - *Schnaser EA. J Arthroplasty. 2015;30(9 Suppl):76-80.*
- Increased risk of unrecognized MI and sudden death
 - *Maradit-Kremers H. Arthritis Rheum. 2005;52(2):402-11.*



Compared to OA patients ..

- Increased mortality at 6W
- Increased risk of MI at 12 mo
 - *Tropea J. Arthritis Res Ther. 2016 Mar;28:18:69.*
- Higher 90 day readmission in RA mostly for infection
 - *Singh JA. Arthritis Care Res 2015;67(5):718-24.*
- Increased risk of pneumonia, transfusion, DVT and pulmonary embolism
 - *Jauregui JJ. Clin Rheumatol. 2016 Mar;35(3):595-600.*



In contra...

- In hospital outcomes better than OA patients
- Lower mortality & complications
 - Yoshihara H. *Clin Exp Rheumatol.* 2016; 34(2):270-5
- 1288 patients 28 day events
- No difference in bleeding or DVT
 - Izumi M. *J Rheumatol.* 2015 Jun;42(6):928-34.



In contra ..

- 477 patients: 6 month adverse events
- No difference in infection, MI, DVT
 - *LoVerde ZJ. J Rheumatol. 2015;42(7):1123-30.*
- 34,524 patients undergoing TJA
- No increased risk for 30-day cardiovascular events, infections, or mortality
 - *Michaud K. Arthritis Res Ther. 2013;15(6):R195.*



Pre-op workup

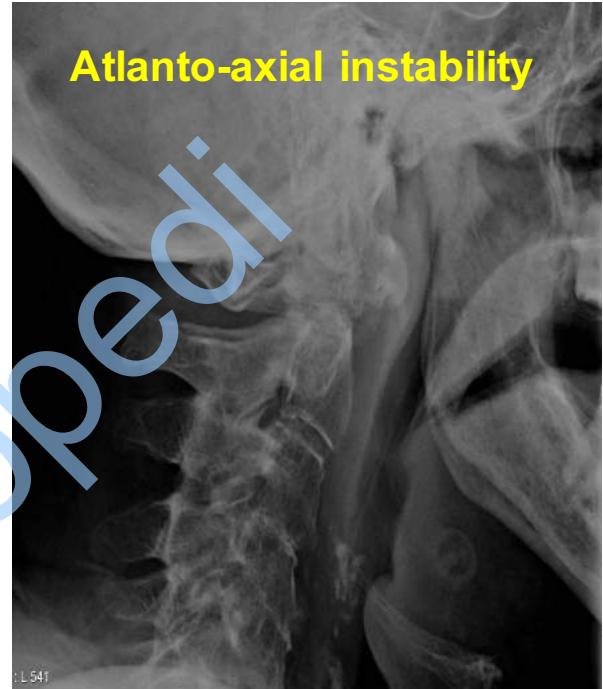
- Full anesthetic work-up
- Cessation of anti-rheumatoid drugs
 - NSAID and steroids can be continued
 - Additional steroid dose may be necessary
- DMARD & anti-TNF drugs controversial
 - Howe CR. J Am Acad Orthop Surg 2006; 14(9): 544-51.
 - Giles JT. Arthritis Rheum 2006; 55(2): 333-7
 - Sreekumar R, Acta Orthop Belg 2011; 77(6): 823-6



DRUG	Half life	Recommendation
Methotrexate	0.7-5.8 hrs	Discontinue 1 week before Start 2 weeks postop
Sulfasalazine	5 hrs	Discontinue 1 week before
Azathioprine	7.6 hrs	
Leflunomide	2 weeks	Discontinue 6 weeks before
Hydroxychloroquine	1-2 months	No need to discontinue
Etanercept	4.3 days	Discontinue 1.5 week before
Infliximab	8-10 days	Discontinue 3 week before
Golimumab		
Tocilizumab		
Abatacept	12-14 days	Discontinue 1 month before
Adalimumab		
Certolizumab		
Rituximab	21 days	Discontinue 2 month before
Allopurinol	1-2 hrs	Discontinue 1 week before
Colchicine	26-32 hrs	Discontinue 1 week before
Probenecid	26-32 hrs	Discontinue 1 week before

Cervical spine & temporo-mandibular joint

- 60% cervical spine instability
 - *Collins DN, J Rheumatol 1995; 22: 1037-1042.*
- Loss of mobility cervical spine and T-M joint may cause problems with intubation
 - *Lee JJ . Korean J Anesthesiol. 2012 Mar;62(3):272-6.*
 - *Vieria EM. Rev Bras Anestesiol 2011; 61: 3: 367-37*



What is different from varus OA knees ?

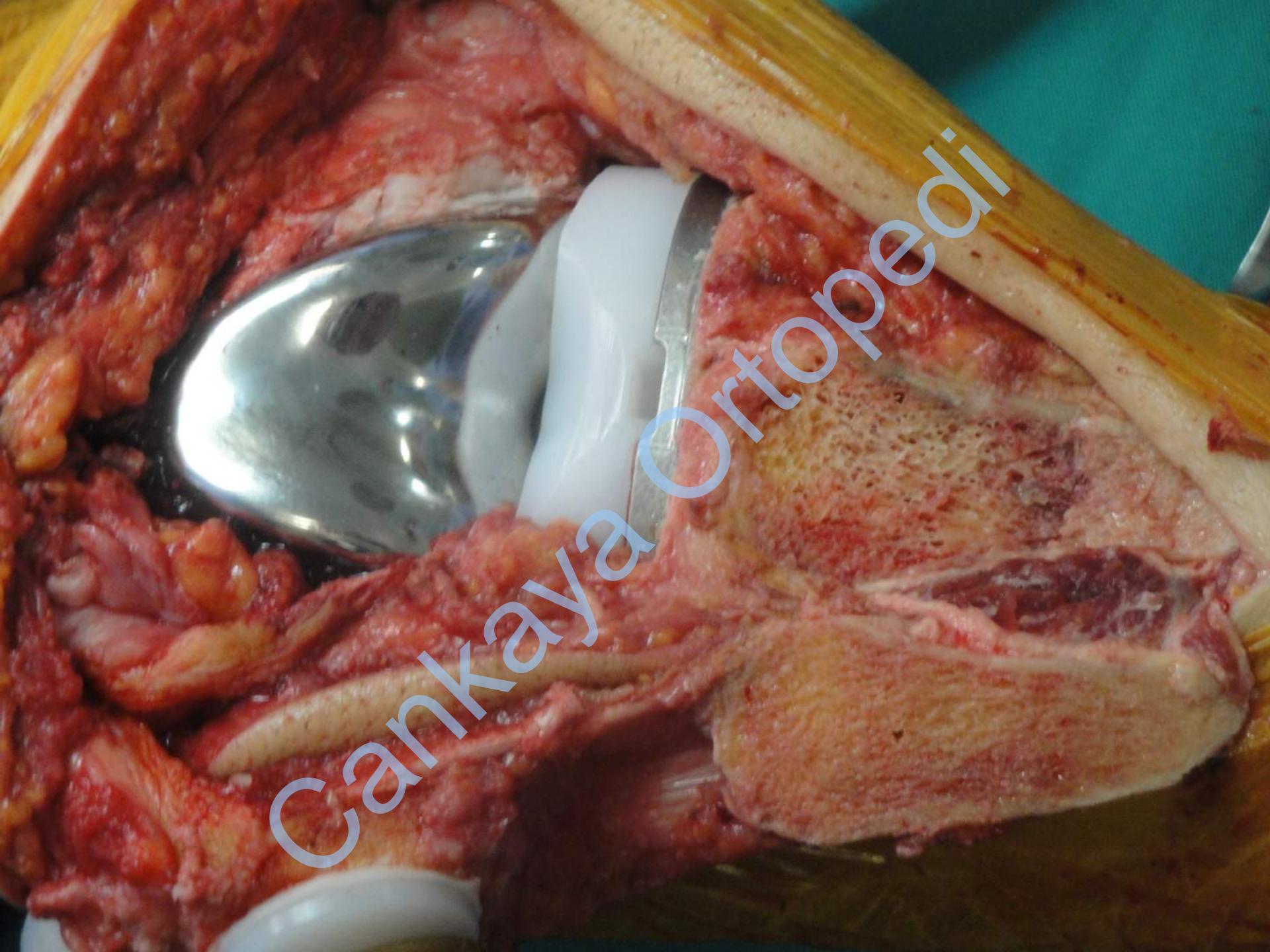
- Surgical exposure
- Addressing tibial bone loss
- Release of lateral structures/MCL reconstruction
- Patellar alignment

- PCL sacrifice ?
 - *Verra WC. Cochrane Database Syst Rev. 2013 ;10:CD004803.*
- Patellar resurfacing ?
 - *Li S. Int Orthop. 2011 Mar;35(3):305-16.*
 - *Deehan DJ. Acta Orthop Belg. 2008;74(4):478-82.*





Cankaya Ortopedi

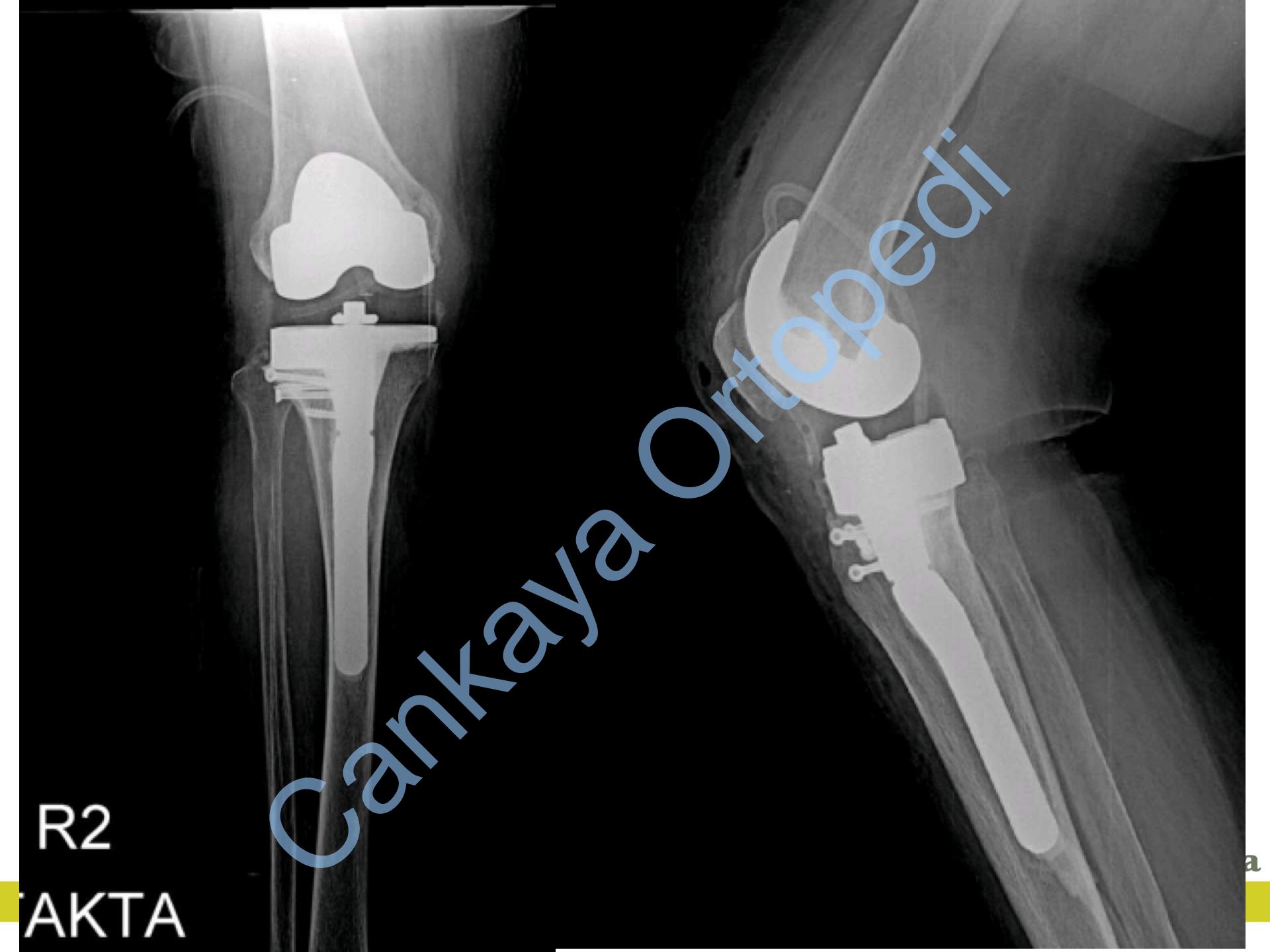


Cankaya Ortopedi

Poor bone quality

- Osteoporosis due to steroids and immobilization
- Risk of periprosthetic fracture higher in registry studies
 - Lindahl H, *J BoneJoint Surg Br* 2006; 88: 26-30.
 - Sarvilinna R. *Int Orthop* 2003; 27: 359-361.

R2
AKTA



Cankaya Ortopedi

a

- Valgus deformity
- Fixed flexion contracture
- Patellar subluxation
- Bone loss
- Ankylosis



Se: 1002

Cankaya Ortopedi

L

Soft tissue problems..

- Contracture of lateral capsulo-ligamentous structures
- MCL laxity
- Patellar subluxation
- Shortened peroneal nerve

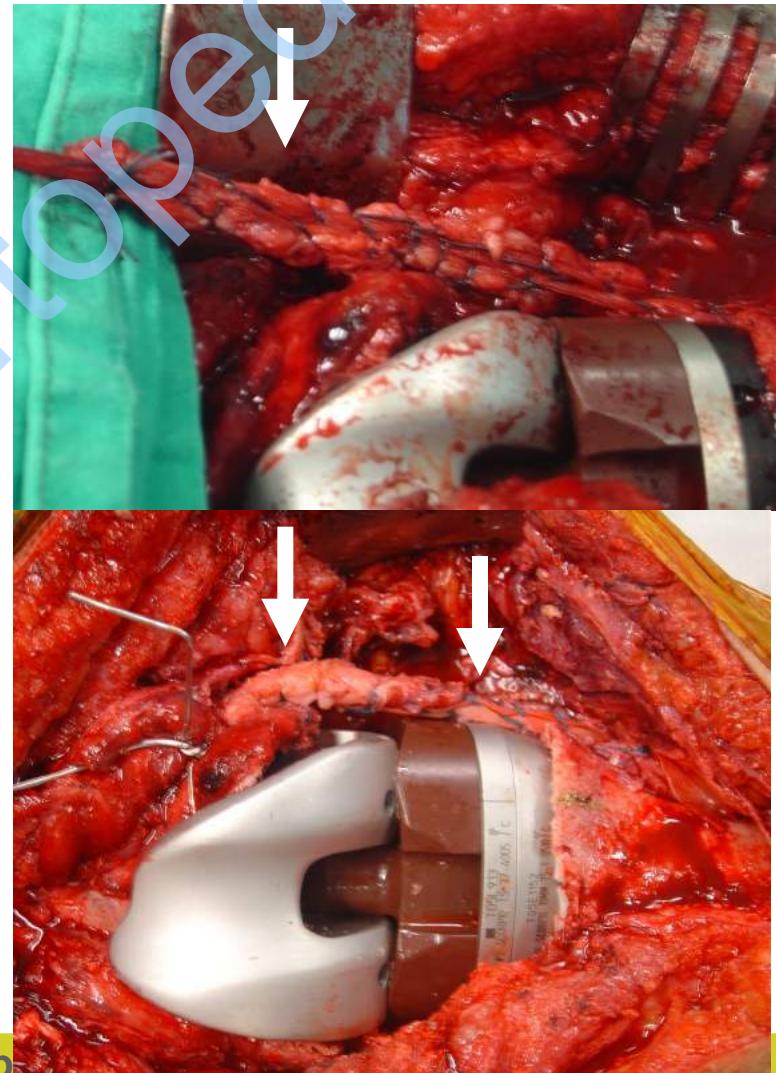


Complex reconstructions in Type III valgus knees

- CCK or rotating hinges to correct MCL insufficiency

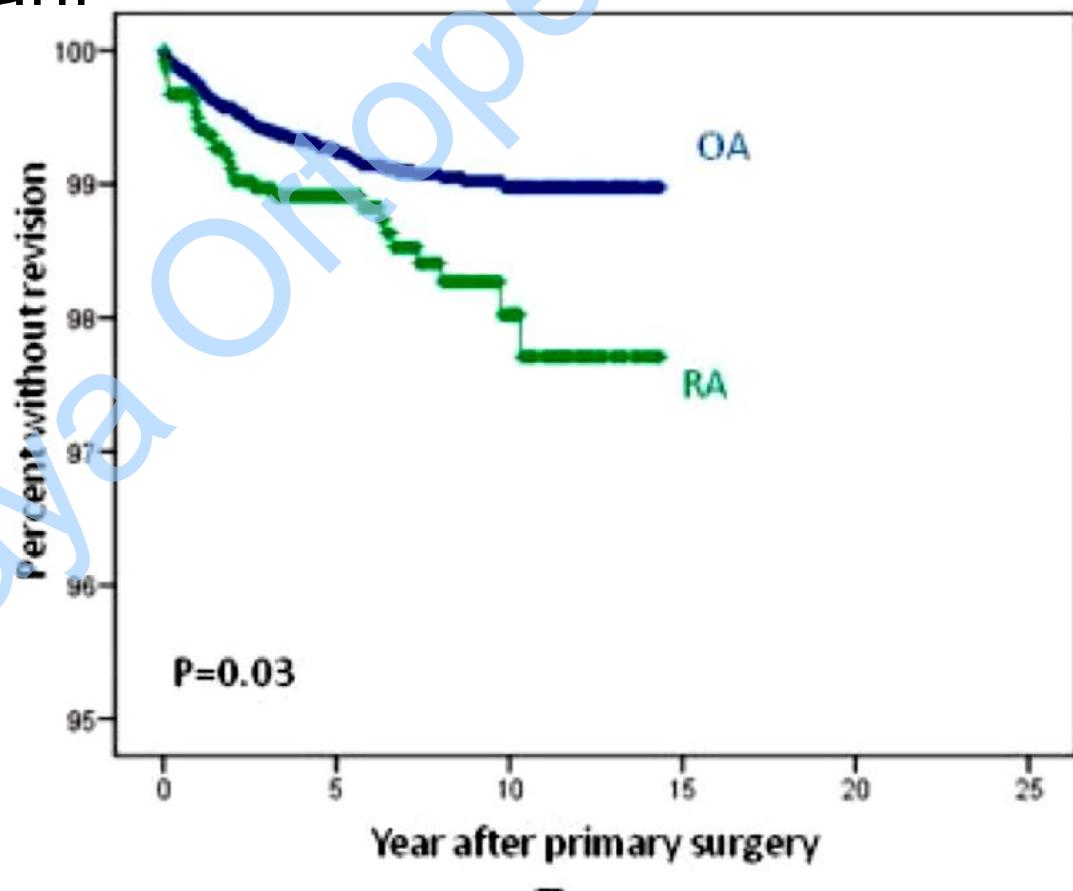
or..

- PS/ CCK prosthesis & MCL reconstruction
 - Krackow KA: Clin 1991;(273):9-18.



Long term results of TKA in RA

- CR cemented implant
 - Survival 98.7% at 10% periprosthetic
 - Lee JK. *Can J Surg* 2002; 45: 33-37.
- Mobile bearing ceramic
 - Survival 88.9% at 10% periprosthetic
 - Abram SG. *Bone & Joint* 2002; 85-B: 103-107.
- But slightly lower compared to OA
 - 6629 RA compared to 7000 OA
 - Schrama JC. *Arthritis Care & Research* 2002; 48: 100-104.



[Create RSS](#) [Create alert](#) [Advanced](#)[Article types](#)
[Clinical Trial](#)
[Review](#)
[Customize ...](#)[Text availability](#)
[Abstract](#)
[Free full text](#)
[Full text](#)[PubMed Commons](#)
[Reader comments](#)
[Trending articles](#)[Publication dates](#)
[5 years](#)
[10 years](#)
[Custom range...](#)[Species](#)
[Humans](#)
[Other Animals](#)[Clear all](#)[Show additional filters](#)

Summary ▾ Sort by Most Recent ▾

Send to: ▾

Filters: [Manage Filters](#)[Find related data](#)Database: [Select](#)[Find Items](#)**Search details**

("outpatients" [MeSH Terms] OR ("outpatients" [All Fields] AND "outpatient" [All Fields] AND ("arthroplasty, r" [MeSH Terms] OR ("

[Search](#)**Recent Activity**

- [outpatient total knee arthritis \(5\)](#)
- [The impact of rheumatoid arthritis on rehabilitation outcomes](#)
- [Comparison of total joint replacement in patients with osteoarthritis](#)
- [Comparison of total joint replacement in patients with osteoarthritis](#)
- [outpatient total knee arthritis \(6\)](#)

Search results

Items: 5

 [Comparison of total hip and knee joint replacement in patients with rheumatoid arthritis and osteoarthritis: a nationwide, population-based study.](#)

- Liao CY, Chan HT, Chao E, Yang CM, Lu TC.
Singapore Med J. 2015 Jan;56(1):58-64.
PMID: 25640101 [Free PMC Article](#)
[Similar articles](#)

 [Patterns of pharmacotherapy and health care utilization and costs prior to total hip or total knee replacement in patients with osteoarthritis.](#)

- Berger A, Bozic K, Stacey B, Edelsberg J, Sadosky A, Oster G.
Arthritis Rheum. 2011 Aug;63(8):2268-75. doi: 10.1002/art.30417.
PMID: 21520012 [Free Article](#)
[Similar articles](#)

 [\[Surgical site infection after total knee arthroplasty: a monocenter analysis of 923 first-intention implants\].](#)

- Debarge R, Nicolle MC, Pinaroli A, Ait Si Selmi T, Neyret P.
Rev Chir Orthop Reparatrice Appar Mot. 2007 Oct;93(6):582-7. French.
PMID: 18065867
[Similar articles](#)

 [Feasibility of maximal cardiopulmonary exercise testing in patients with end-stage arthritis of the hip and knee prior to total joint arthroplasty.](#)

- Philbin EF, Ries MD, French TS.
Chest. 1995 Jul;108(1):174-81.
PMID: 7606955

RA in enhanced recovery/fast track programs after TKA

- No negative effect of RA on length of hospital stay, equally good results with OA
 - *Raut S. Int Orthop. 2012 Aug;36(8):1601-8.*
- Co-morbidities are not a contra-indication for fast-track programs
 - *Husted H. Acta Orthopaedica Suppl. 2012, 346 (83)*
- Slightly lower patient satisfaction in RA patients,
 - *Specht K. Acta Orthop. 2015;86(6):702-7.*
- RA an exclusion criteria for fast track TKA
 - *den Hertog A. Arch Orthop Trauma Surg. 2012;132(8):1153-63.*



Risk factors for increased LOS

- Pre-op malnutrition
 - Serum transferrin/albumin levels
- Pre-op decreased mobility
- Cardiac morbidity
- Wound drainage
- ...these risk factors are more common in RA



Take home messages

- Risk of adverse events still controversial in RA patients undergoing TKA
- RA patients should be incorporated into fast track programs only in specialized centers with proper perioperative management

.