ISAKOS 2023

Prognostic Factors For Repair of Longitudinal Vertical Meniscal Tears.

A prospective cohort study on 78 consecutive cases

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Disclosure

Authors have no financial conflicts.

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Factors affecting healing

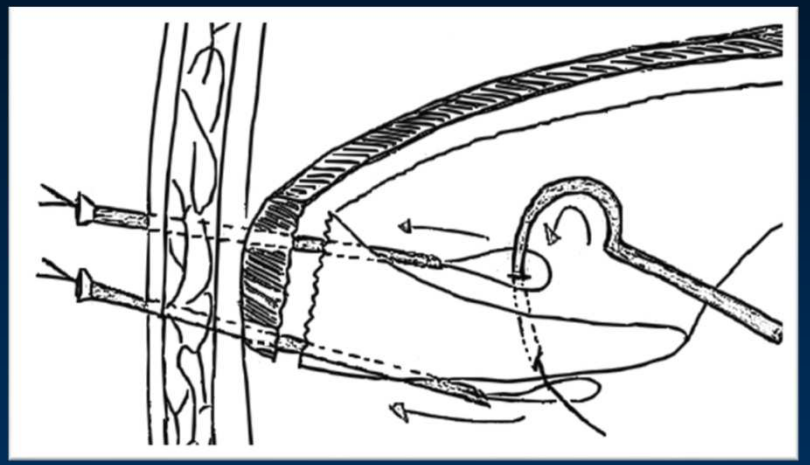
Study design	Year	Authors	Nbre	Healing assessment	AGE	SEX	SMOKERS	MEDIAL SIDE	TEAR EXTENSION	RED-WHITE	TYPE	CONCOMITANT ACLR	SUTURE TYPE	DELAY SURGERY
Case series	1995	Kimura et al	46	secondary arthroscopy						↓		↑		
case series	2008	Pujol et al	53	Arthro-CT				↔				↔		
Systematic review	2011	E.Scott Paxton et al.	NA	NA				↓				↑		
case series	2017	Erdal Uzun et al	80	MRI	↔		↓		↔	↓	↔	↔	↔	↓
Systematic review	2019	Daniel Y.T. Yeo et al.	NA	NA	↔	↔		↔	↔		↑	↑		↔
Meta-analysis	2020	Erik Ronnblad et al.	954	need second surgery	↔			↓		↔		↑	↓	↔
Meta-analysis	2022	L.M. Gerritsen et al	758	2nd look arhtroscopy						↓				

Factors affecting healing patient-reported outcome measures (PROM's)

Study design	Year	Authors	Nbre	Healing assessment	AGE	BMI	Varus >5°	osteoarthrosis > grade II	CONCOMITANT ACLR	SUTURE TYPE	DELAY SURGERY
Systematic review	2019	Daniel Y.T. Yeo et al.	NA	NA	↔	↔	↓	↓	↔	↔	↓

↔ : no effect
↓ : reduced
↑ : improve

The Modified Outside-In Suture (MOIS)



Vertical full thickness stitch

Maintain more circumferential collagenous fibers

Better control of fragments reduction

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Purpose: Determining factors affecting healing

Same surgeon, same technique (MOIS) and same tear (longitudinal vertical)

Primary outcome : **objective** : meniscal healing:

CT arthrography at 6 months with Henning's criteria

Secondary outcome: **subjective**: patient-reported outcome measures:

Clinical scores at 6 - months (IKDC - KOOS)

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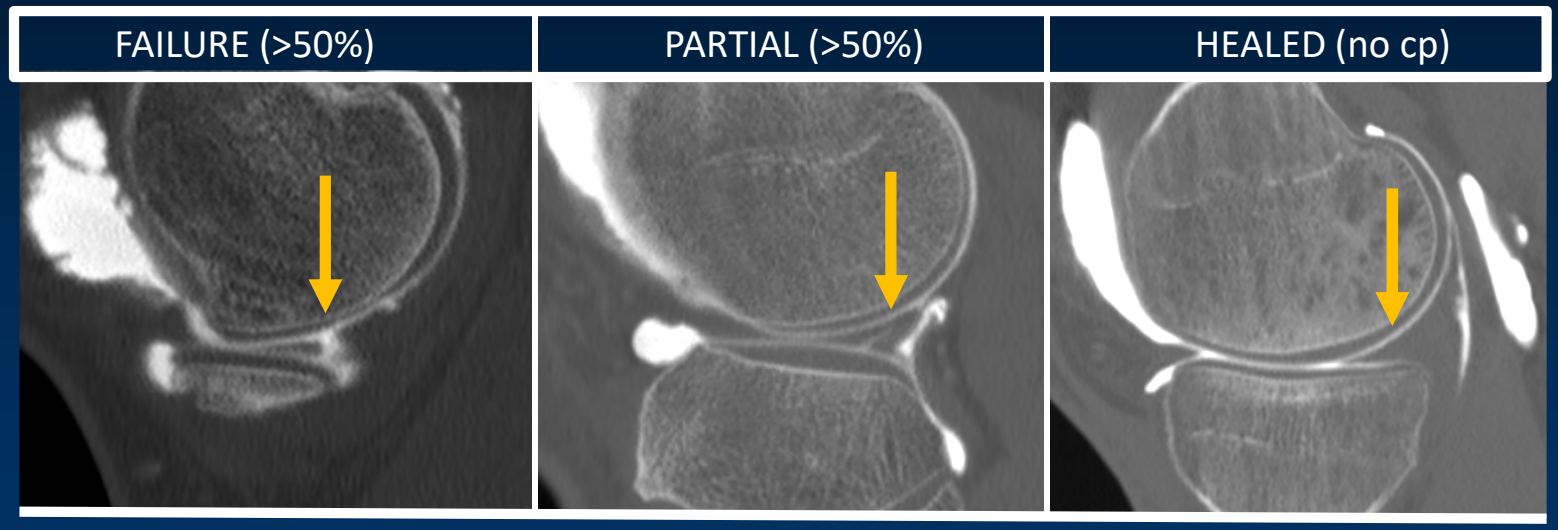
Methods: healing assessment: CT-arthrography

Henning's criteria



Henning CE, JBJS, 1986
Pujol N, AJSM, 2008

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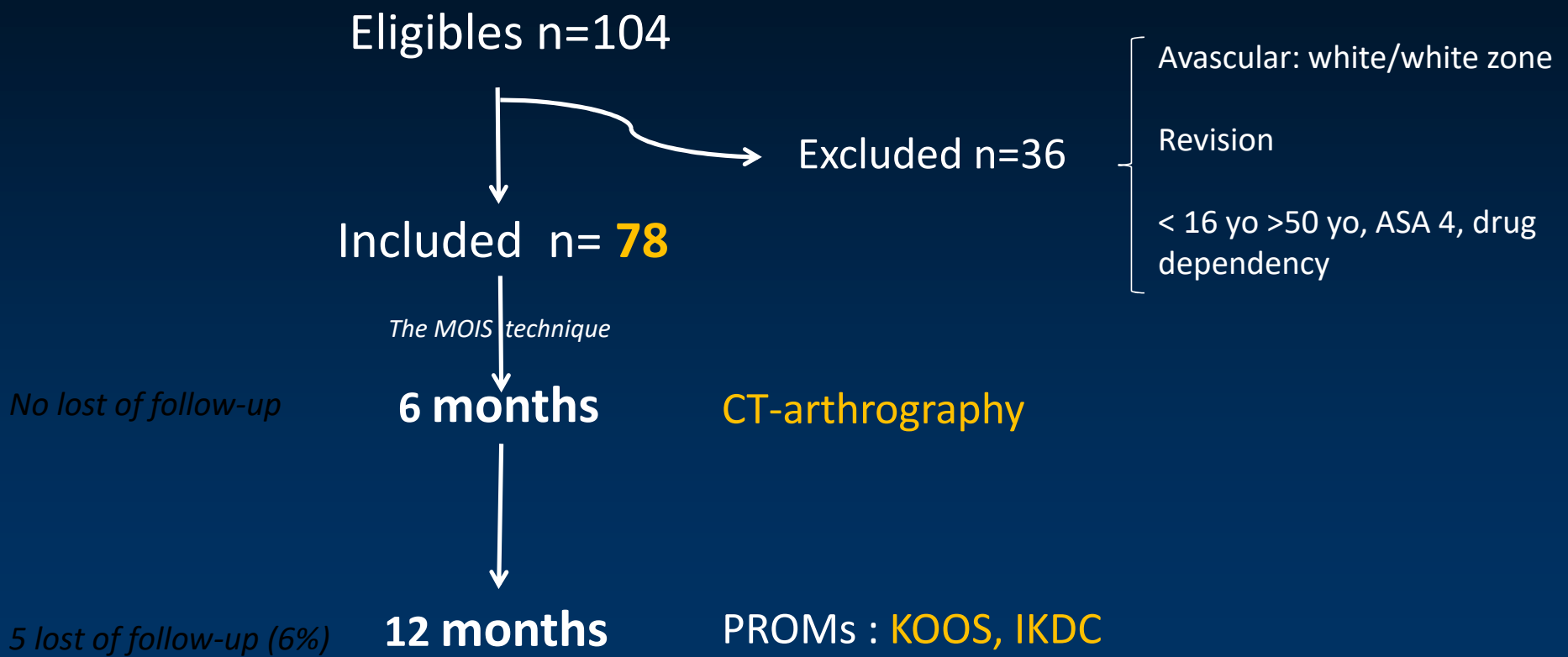
Methods: Prospective open cohort (2015-2018)



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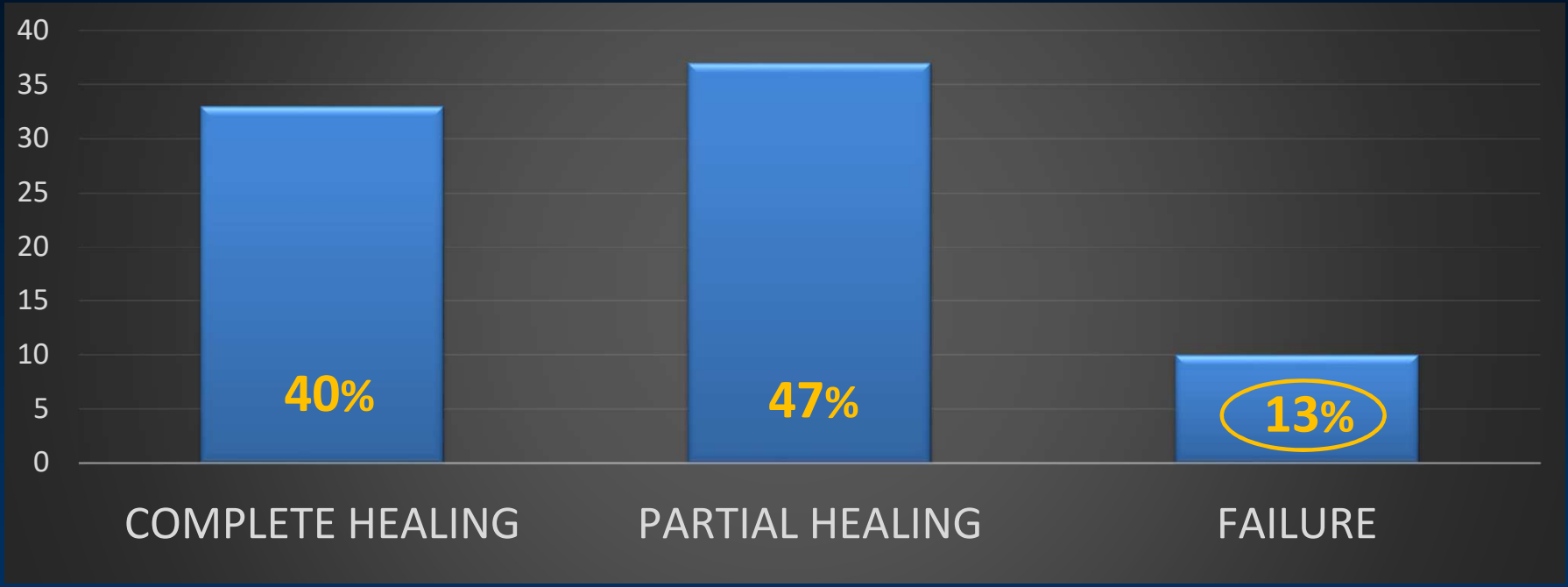
Results: Healing on CT-arthrography



Beaufils et, 2003	C:62%	P:31%	F:27%
Pujol et al, 2008	C:53%	P:24%	F:18%

Results: factors and statistical analysis

HOST	
Sex ratio (male/female)	3
BMI (kg/m^2)	24.5 ± 4.8
Smoker	33%
Early OA > II Outerbridge	37%
Age (years)	29 ± 8.7
Compartment overload	19%
TEAR	
Medial meniscus	77%
Extension all segments	53%
red-white zone	42%
SURGERY	
Concomitant ACLR	55%

Factors reducing healing:
-Compartment overload (OR: 3.2; p=0.08)
-Medial side (OR: 2.5; p=0.08)

Factors reducing PROM's
-Compartment overload with lower KOOS symptoms (OR: 0.35; p=0.022), pain (OR: 0.28; p=0.02), and QOL (OR: 0.44; p=0.05) subscales
-Medial side with lower KOOS QOL (OR: 0.55; p=0.02).
-Aging with lower KOOS pain (OR: 0.73; p=0.04) and sports (OR: 0.65; p=0.011) subscales, and lower IKDC (OR: 0.83; p=0.04)

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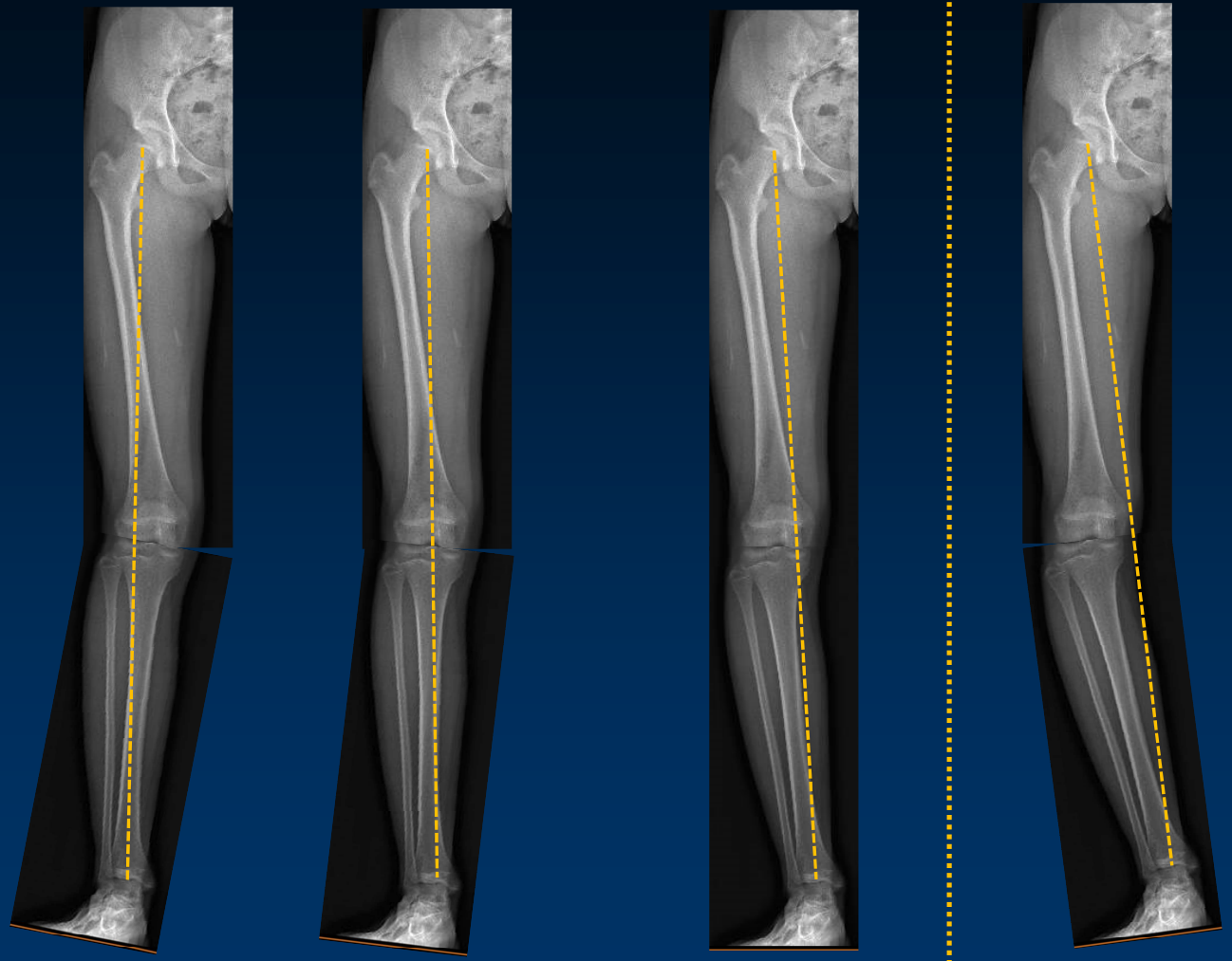
Angulation: >1° opposite <1° >1° and <5° > 5°



Unload Neutral Overload light Overload max

Compartment overload:
> 5 degree of frontal deviation on the side of the meniscal suture

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