

Mobility Ankle Replacement Audit Update June 2010

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Mobility Total Ankle Replacement

- Audit started March 2006
 - Freeman Joint Registry questionnaires
 - American Orthopaedic Foot & Ankle Score (AOFAS)
 - X-ray
 - Complications

Assessment Times

- Preoperative assessment
 - Patients consented on admission
 - Questionnaire
 - AOFAS
 - X-ray

- Follow-up assessment at 3, 6 and 12 months
 - Out-patient clinic
 - Questionnaire
 - AOFAS
 - Complications
 - X-ray



Freeman Joint Registry

- Patient Questionnaires
 - WOMAC
 - Pain, stiffness and function
 - SF-36
 - General health status
 - Comorbid medical conditions
 - Height and weight
 - Satisfaction data collected at follow-up

AOFAS

- Collected by research physiotherapist
- Score combines measures of:
 - Pain (40)
 - Function (28)
 - Ankle range of motion (14)
 - Stability (8)
 - Deformity (10)
- Scores range from 0-100 (100 best)

Recruitment

- March 2006 to May 2010
- 114 (100%) ankles – 108 patients (6 bilateral)

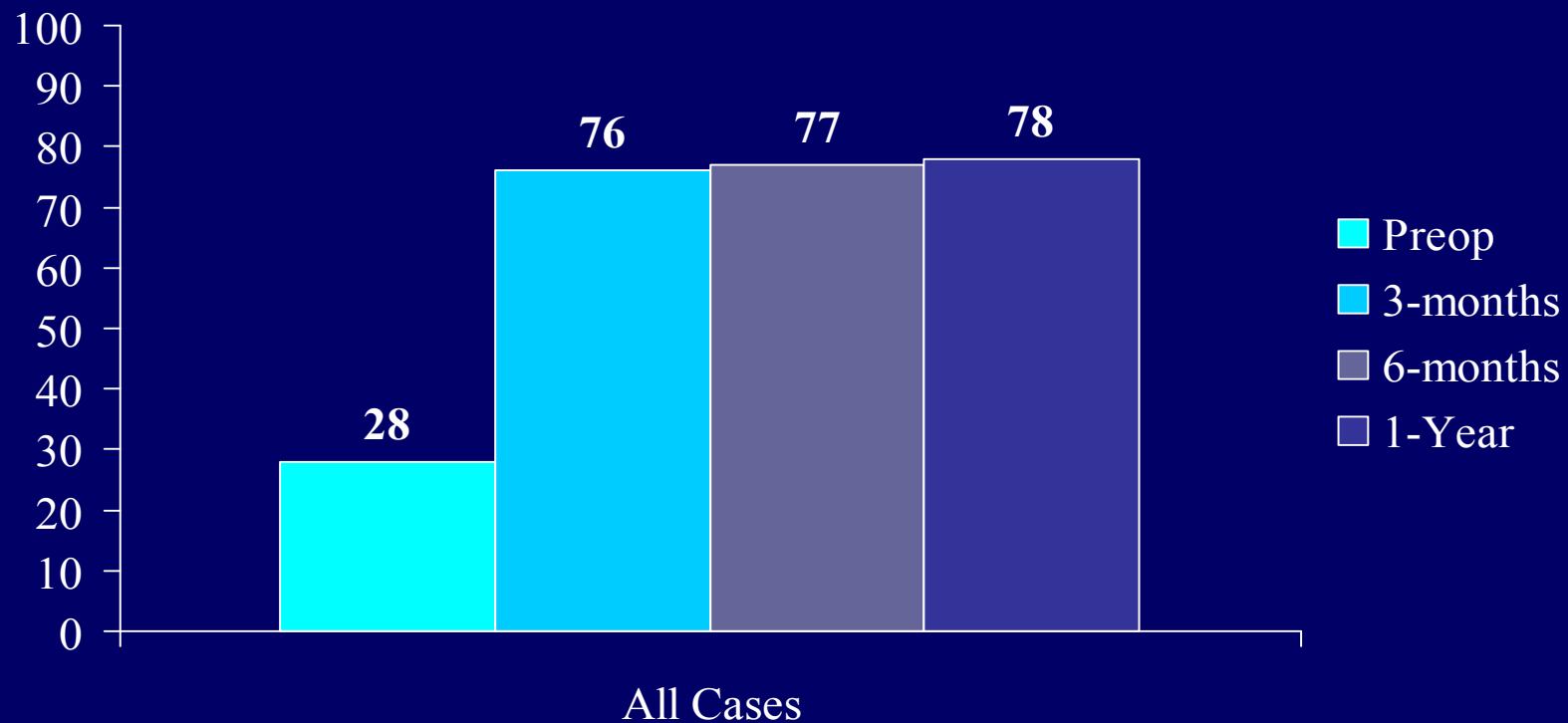
- Data collected

	Questionnaires	AOFAS
<input type="checkbox"/> Pre-operative	107	113
<input type="checkbox"/> 3-Months	68	83
<input type="checkbox"/> 6-Months	61	85
<input type="checkbox"/> 12-Months	55	70

Patient Characteristics

- Male gender 72 (63%)
- Mean age 62 years (33 – 89)
- Diagnosis
 - Osteoarthritis (OA) 59 (52%)
 - Rheumatoid Arthritis (RA) 20 (18%)
 - Post-traumatic osteoarthritis (PTOA) 35 (30%)
- Mean body mass index (BMI) 28.5 (SD 5)

AOFAS Pre-op & Follow-up

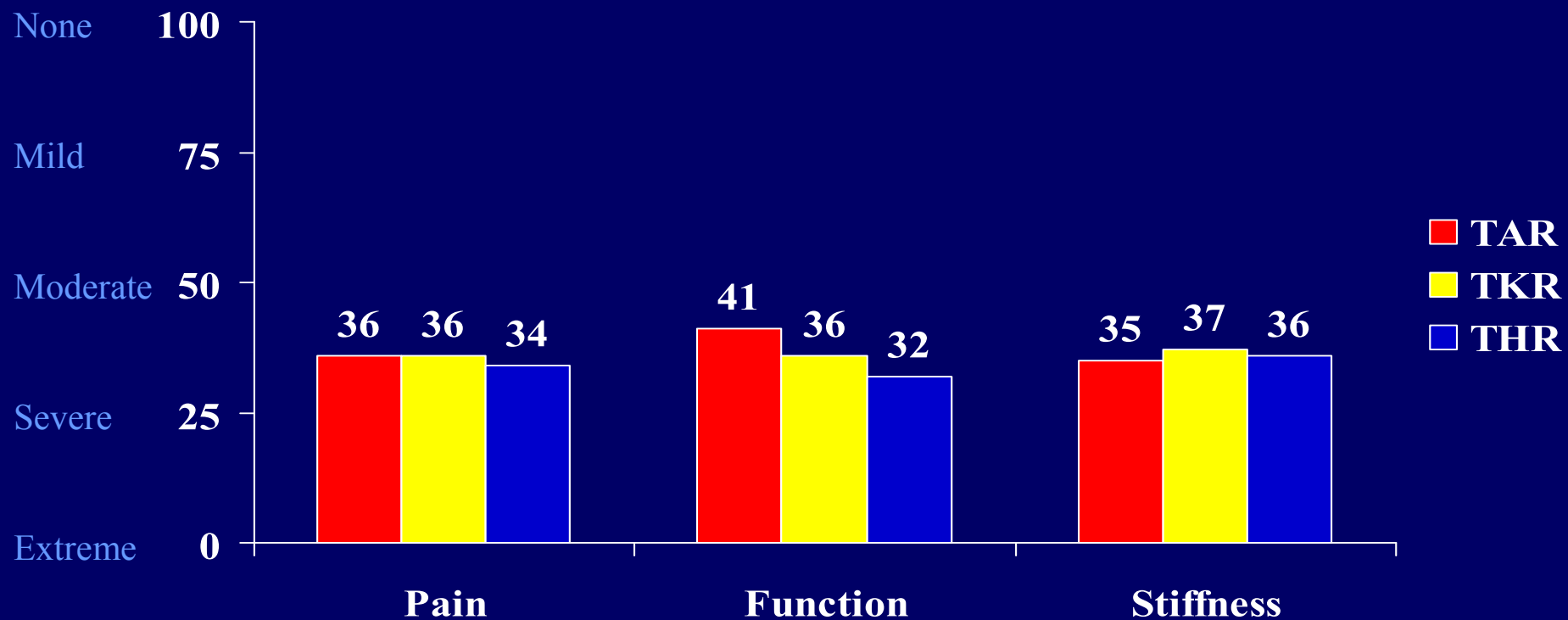


Note: Data on 113 preop, 83 3-months, 85 6-months and 70 at 1-year

WOMAC & FAOS

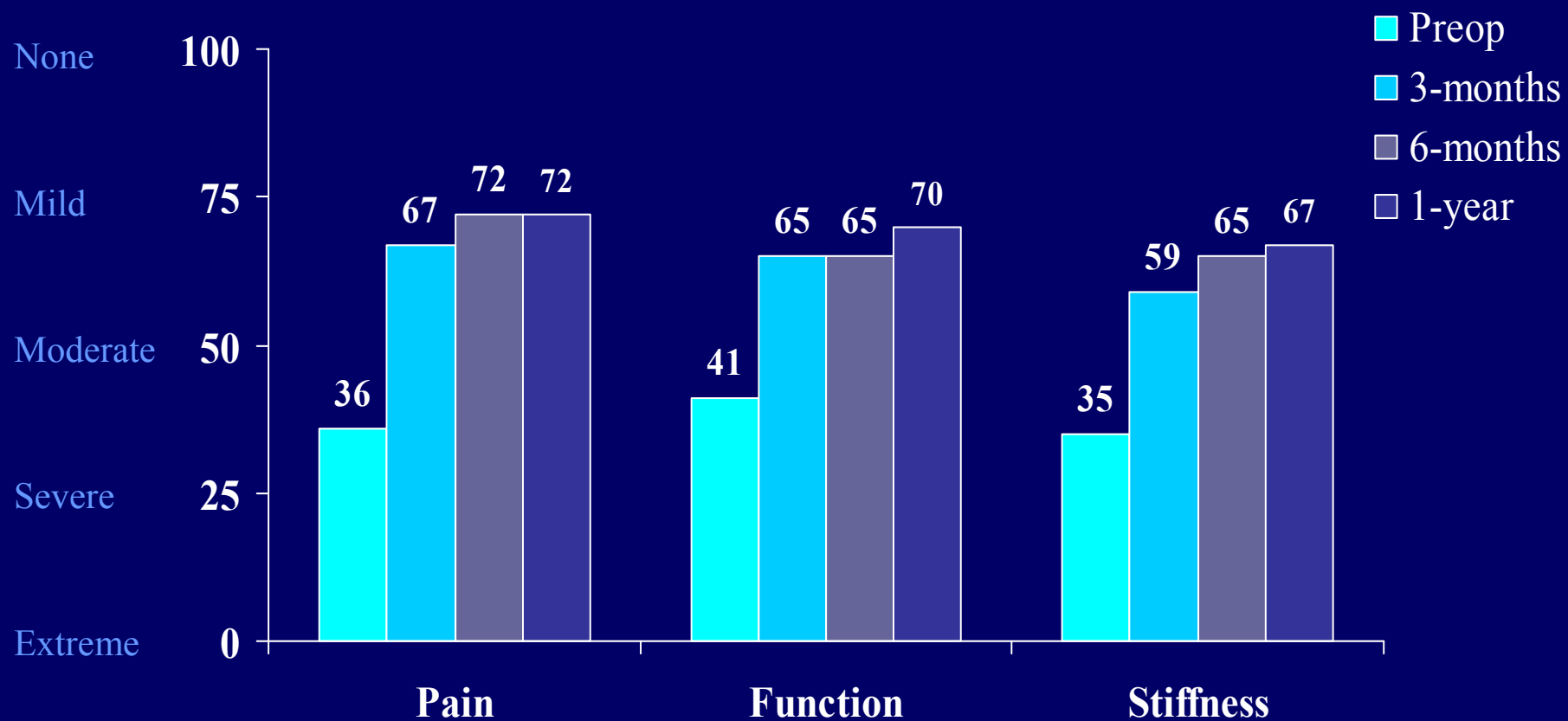
- Includes 5 pain, 2 stiffness & 17 function questions
- Scores transformed to 0-100 (100 best)
 - 100 = none
 - 75 = mild
 - 50 = moderate
 - 25 = severe
 - 0 = extreme

TAR, TKR & THR Preoperative WOMAC



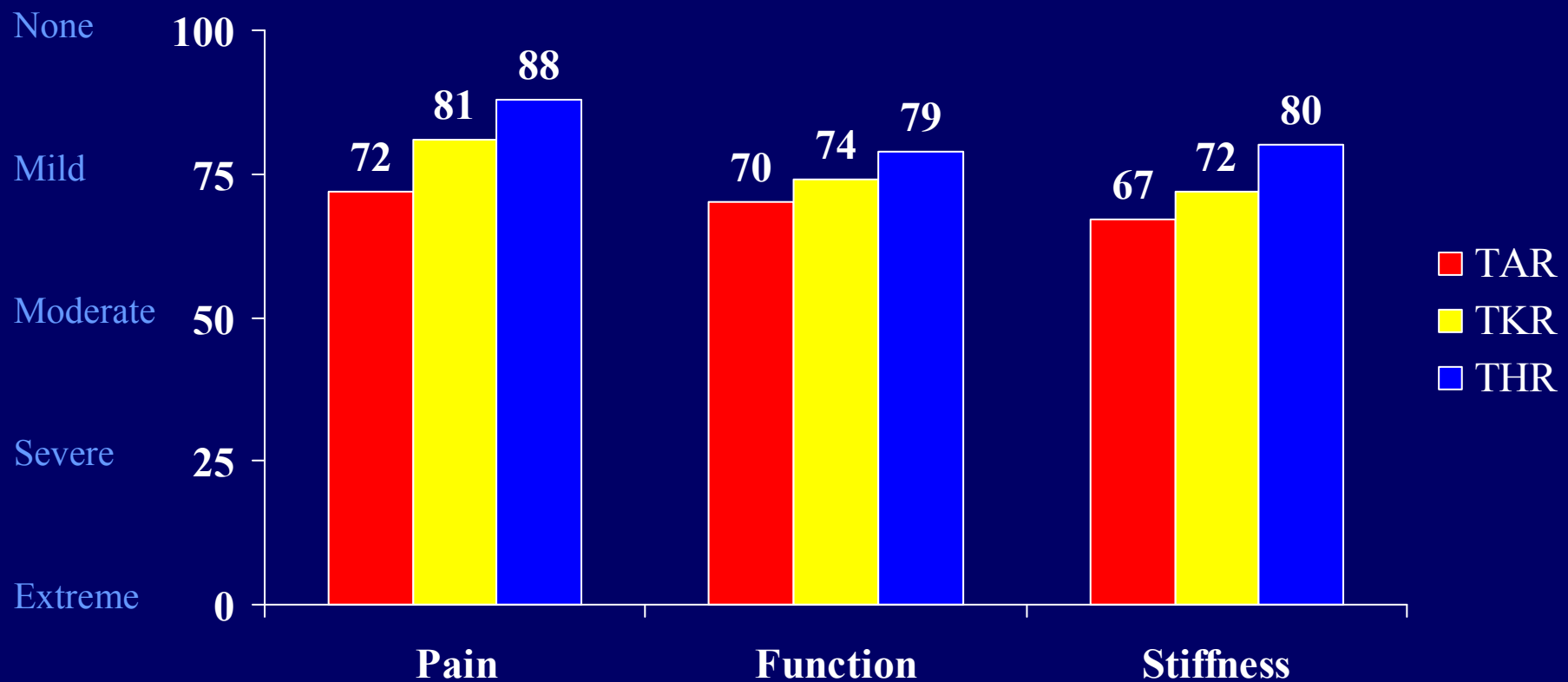
Note: Data on 107 TAR, 1061 TKR and 760 THR

TAR Preoperative & Follow-up WOMAC



Note: Data on 107 preoperative, 68 at 3-months, 60 at 6-months & 55 at 1-year

TAR, TKR & THR 1-Year WOMAC



Note: Data on 55 TAR, 490 TKR and 387 THR

Short-Form 36 (SF-36)

- Reports on 8 health dimensions

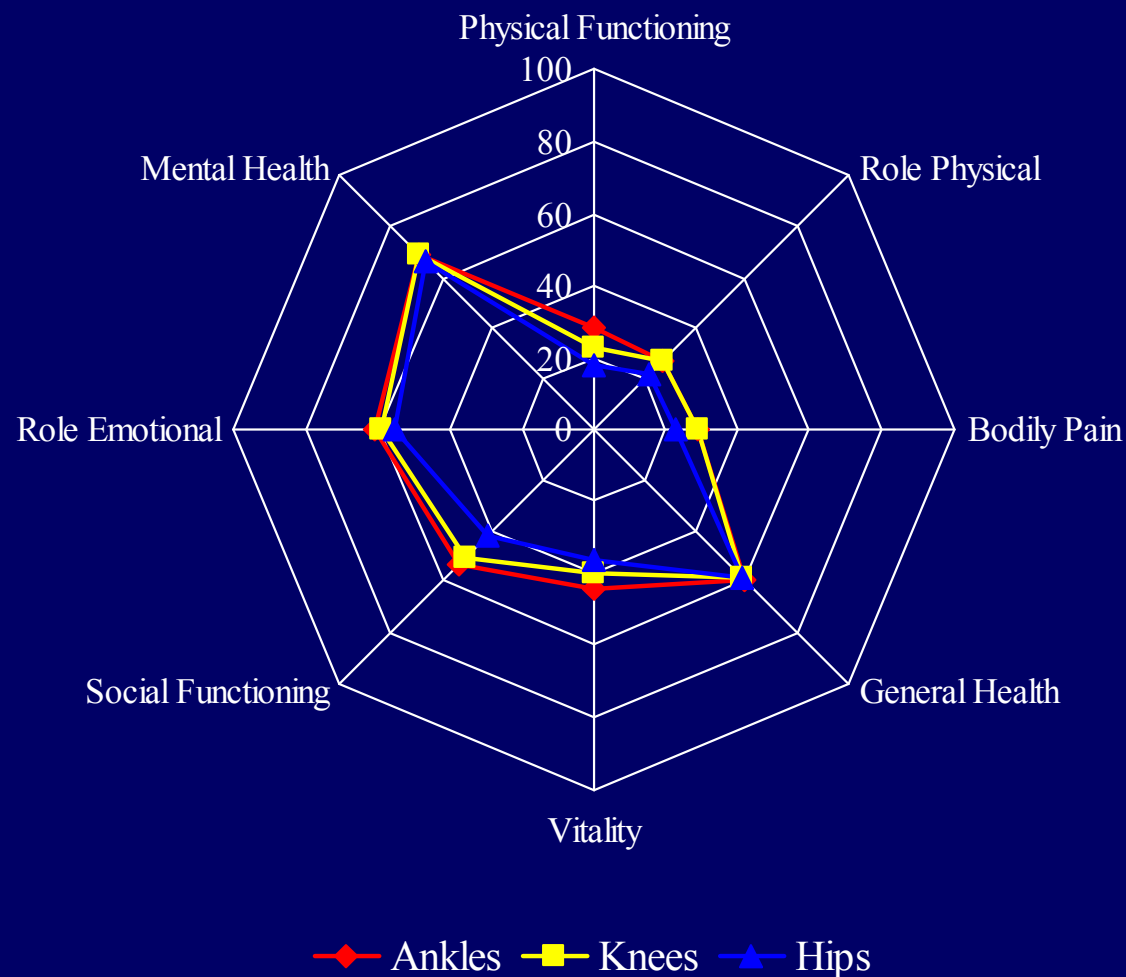
- Physical Functioning
- Bodily Pain
- Role Physical
- General Health Perception
- Mental Health
- Role Emotional
- Vitality
- Social Functioning

*Physical
component
score*

*Mental
component
score*

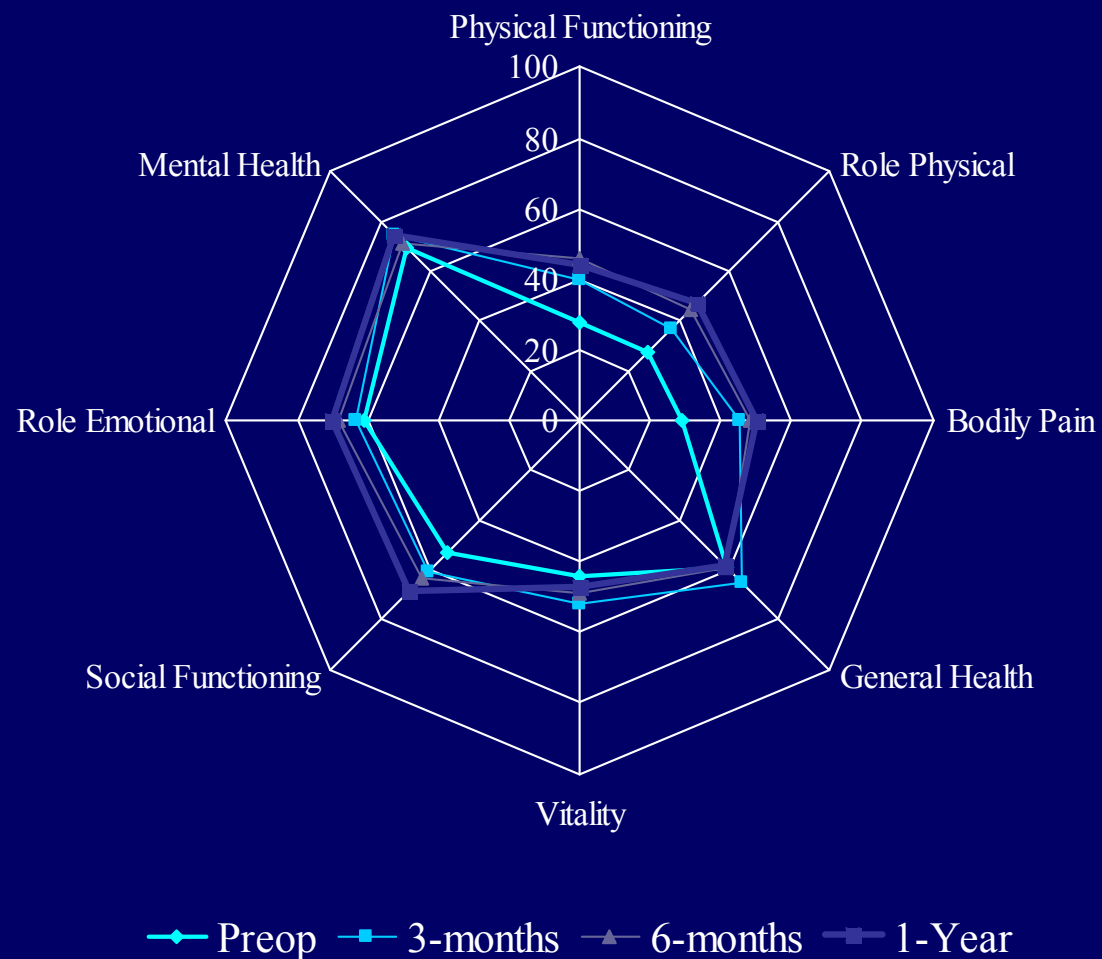
- Each subscale given a 0-100 score (100 best)

TAR, TKR and THR Preoperative SF-36



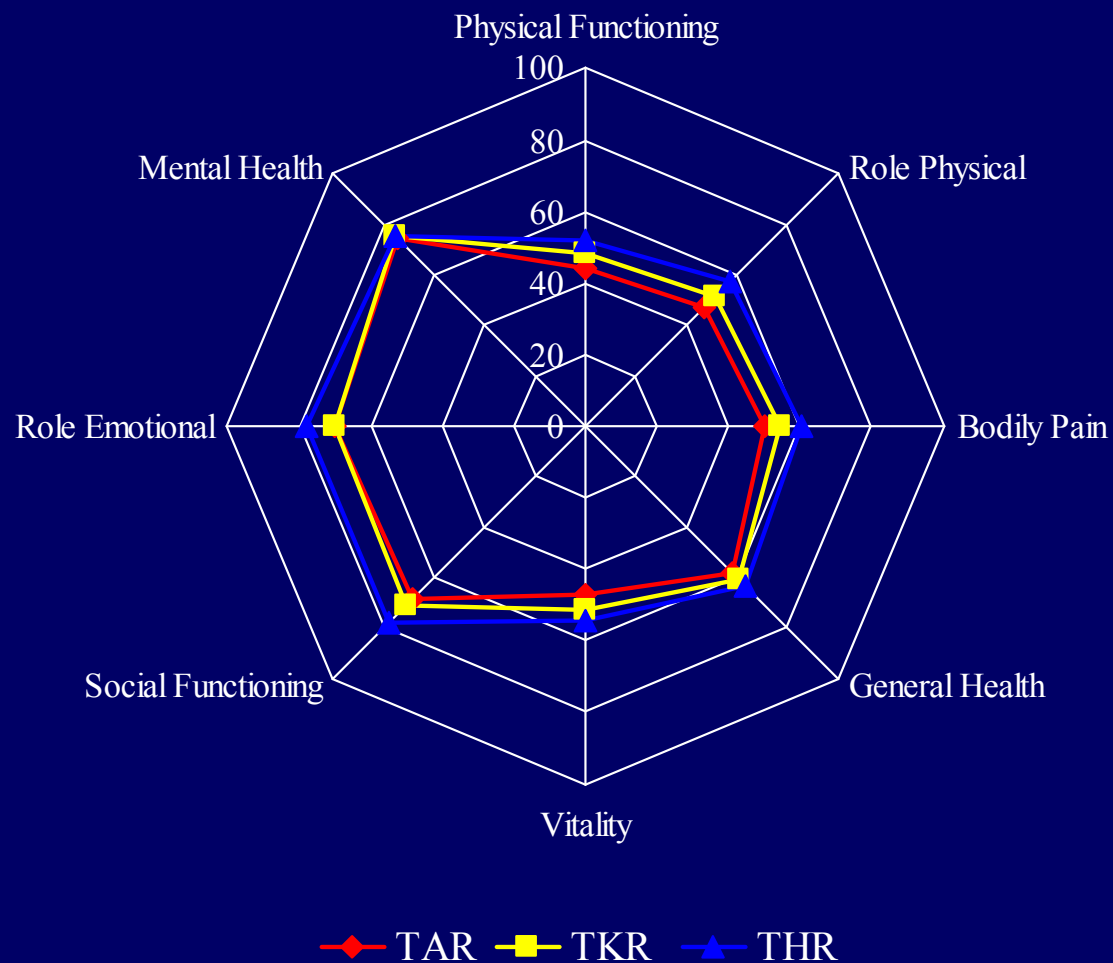
Note: Data on 107 TAR, 1061 TKR and 760 THR

TAR Preoperative & Follow-up SF-36



Note: Data on 107 preoperative, 65 3-months, 60 6-months & 55 at 1-Year

TAR, TKR & THR 1-Year SF-36



Note: Data on 55 TAR, 490 TKR and 387 THR



Failure Cause

- Excessive Constrains
- Instability
- Early Wear
- Talar Subsidence



Design

- Unconstain
- Three Componant
- Mobile Bearing
- Dedicated Instrumentation



Tibial Component

- Cobalt-Chrome
- Porocoat porous coating
- Short I/M Stem
- Triangular rounded posterior plate



C-C Talar Component

- Tri-plan Underside
- Minimal Bone Resection
- Deep Talar Sulcus
- Anterior Talar Fins



UHMWPe Bearing

- Rotation & Translation with Tibia
- DF, PF, Inversion & Eversion Talus
- Conformity & Dislocation
- Contact Stresses

TAR Outcomes by Diagnosis

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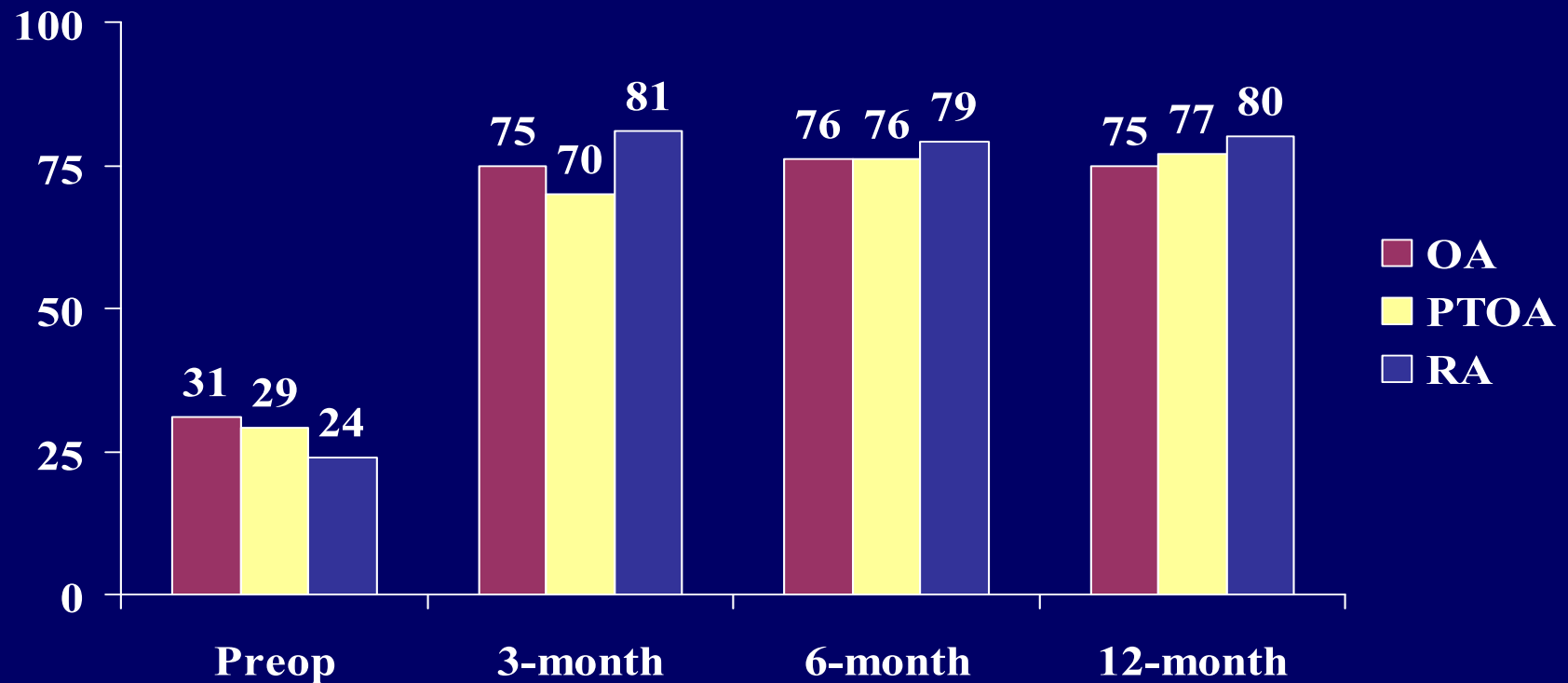
Patient Characteristics by Diagnosis

Diagnosis	OA N=59	RA N=20	PTOA N=35
Mean age	64	64	56*
% Male	78	35*	54
Mean BMI	29	25*	30

*Note: * indicates significantly lower than the other 2 groups ($p < 0.005$); therefore all other analysis of outcome scores adjusted for age, gender and BMI*

AOFAS by Diagnosis

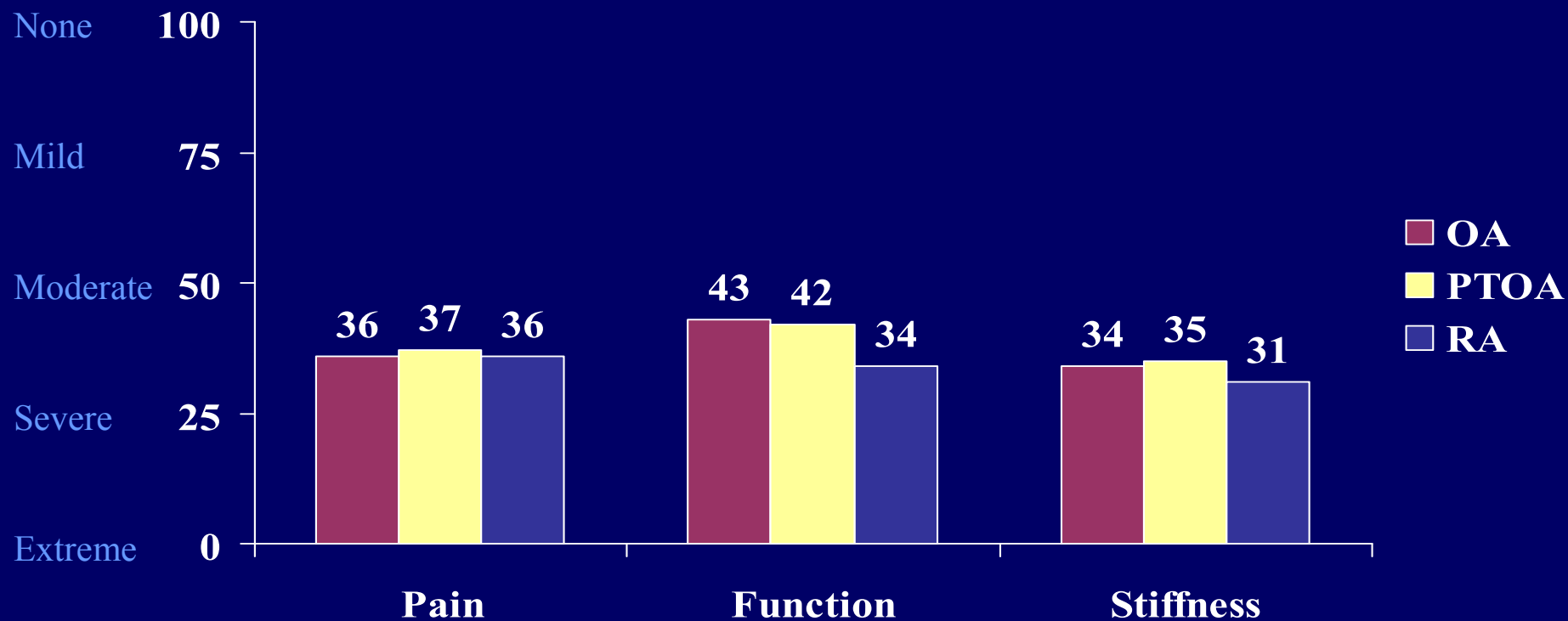
No significant difference by diagnosis



Note: Data on 59 OA, 20 RA and 35 PTOA

Preoperative WOMAC by Diagnosis

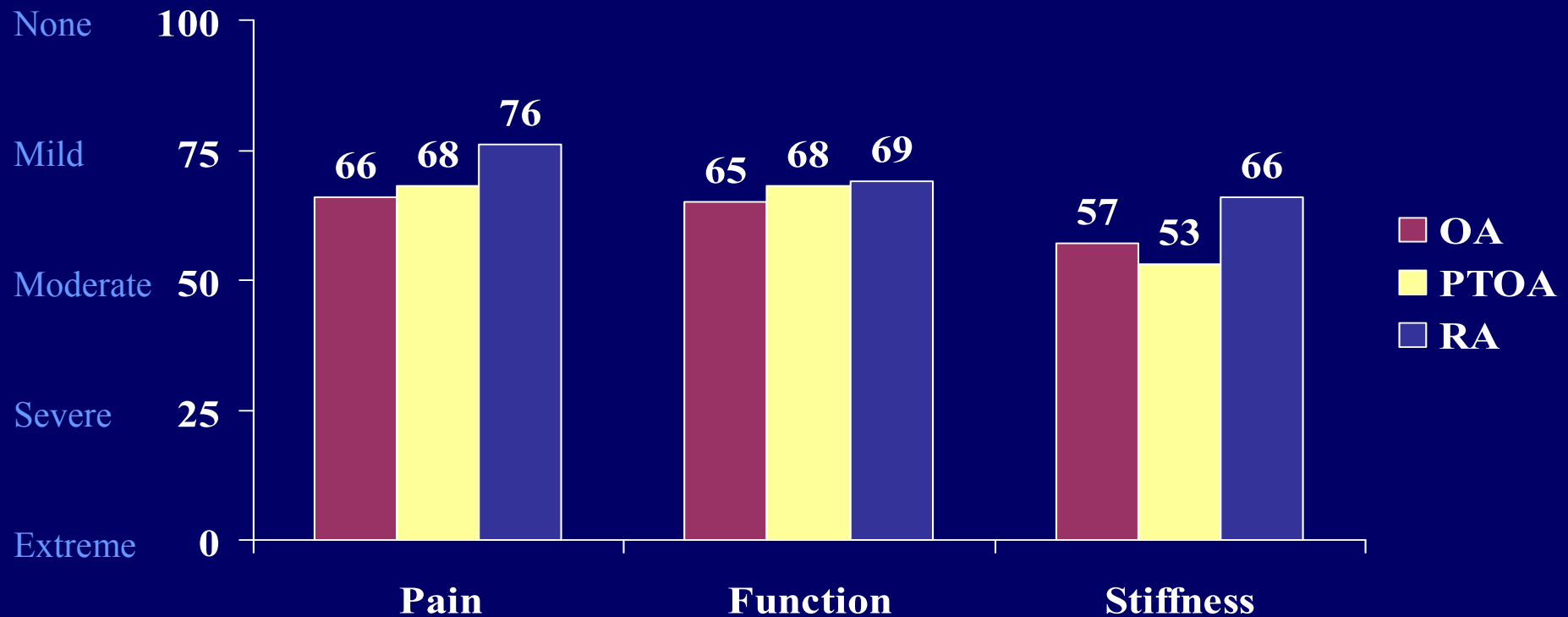
No significant difference by diagnosis



Note: Data on 59 OA, 20 RA and 35 PTOA

3-Months WOMAC by Diagnosis

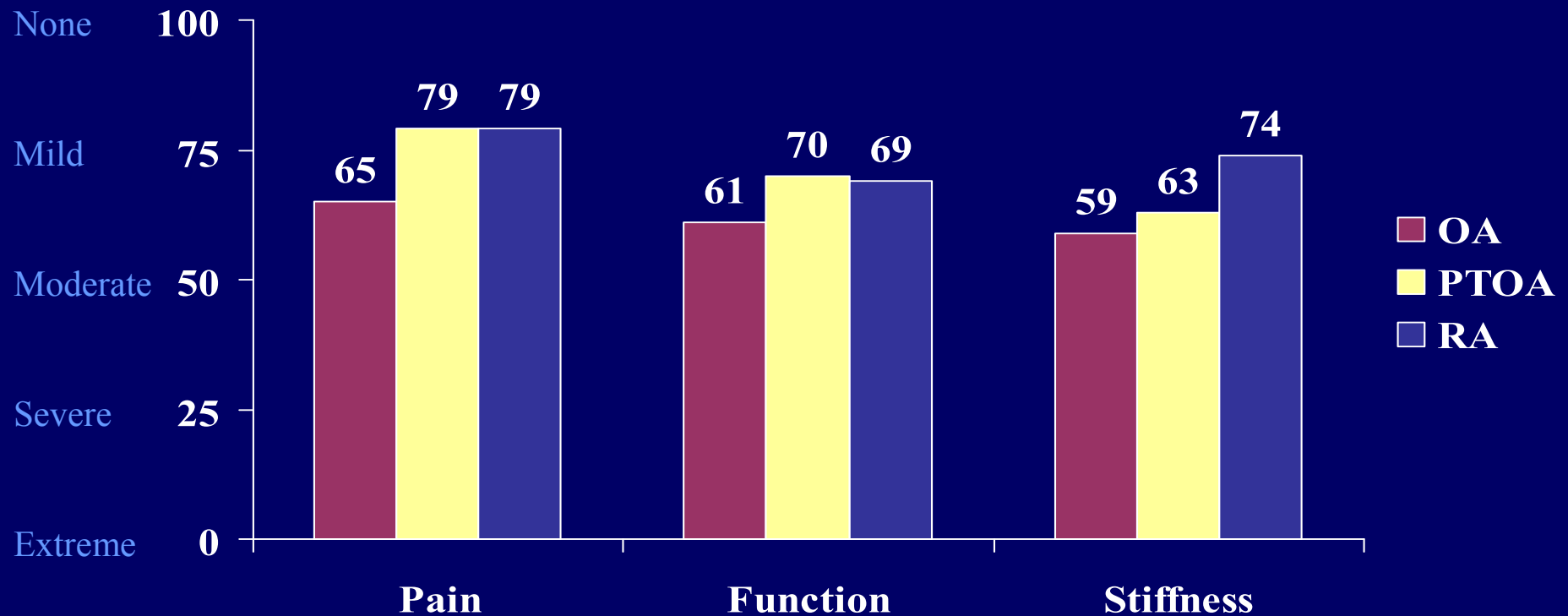
No significant difference by diagnosis



Note: Data on 38 OA, 12 RA and 18 PTOA

6-Months WOMAC by Diagnosis

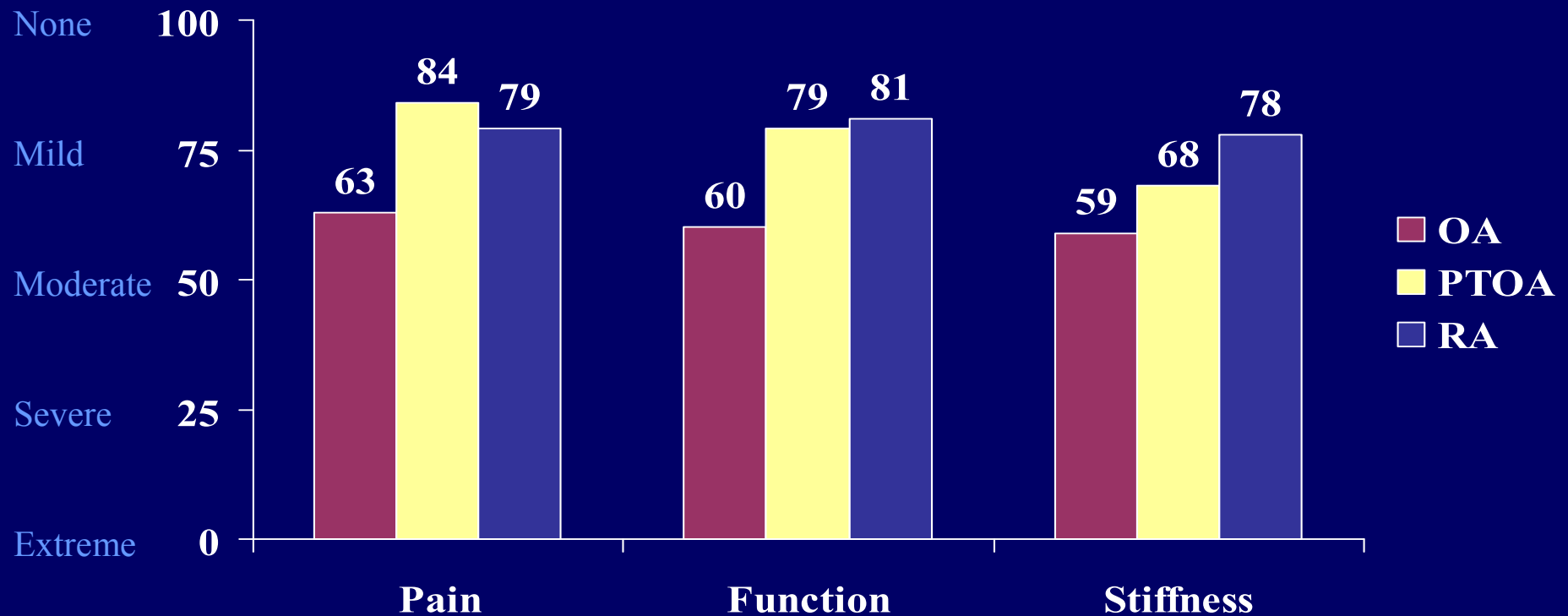
Non-significant trend for worse scores for OA patients



Note: Data on 30 OA, 13 RA and 18 PTOA

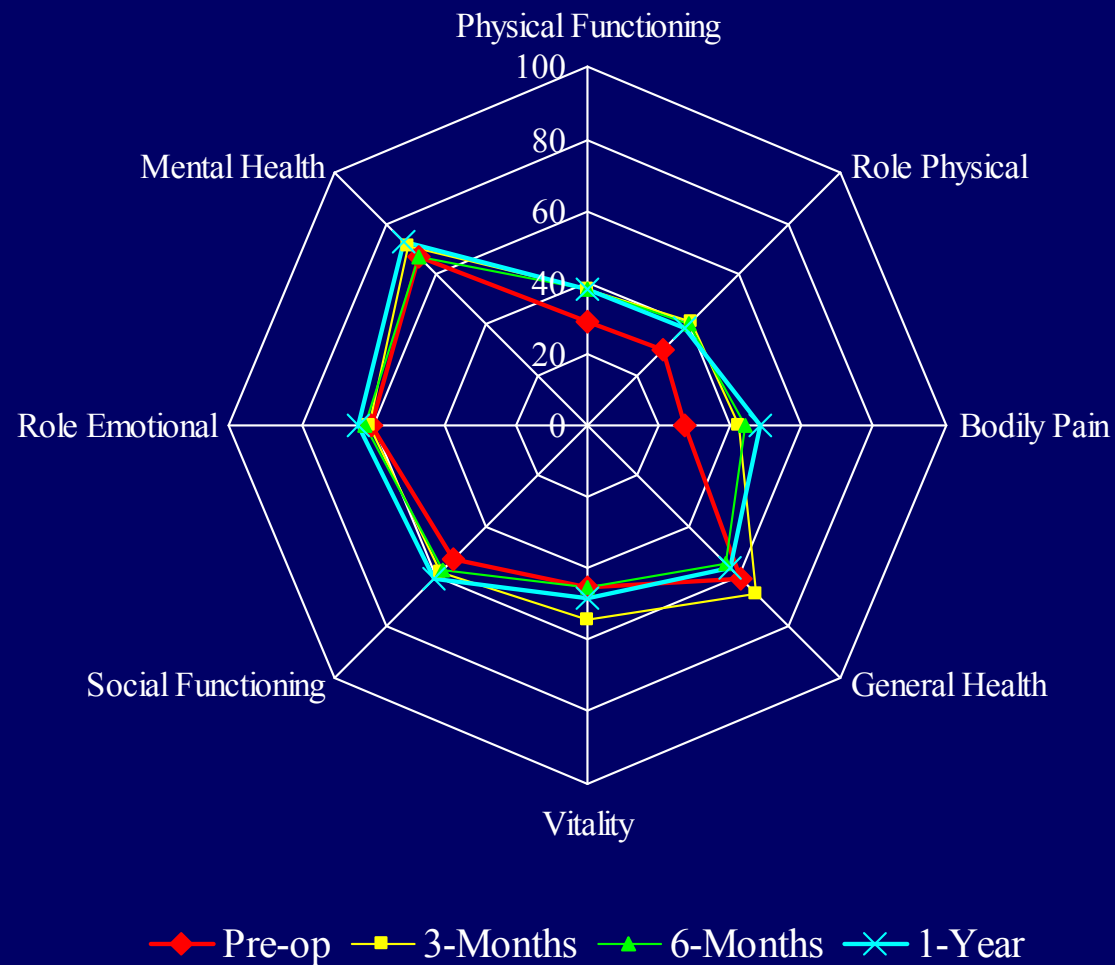
1-Year WOMAC by Diagnosis

OA patients significantly worse pain ($p=0.03$) & function ($p=0.018$)



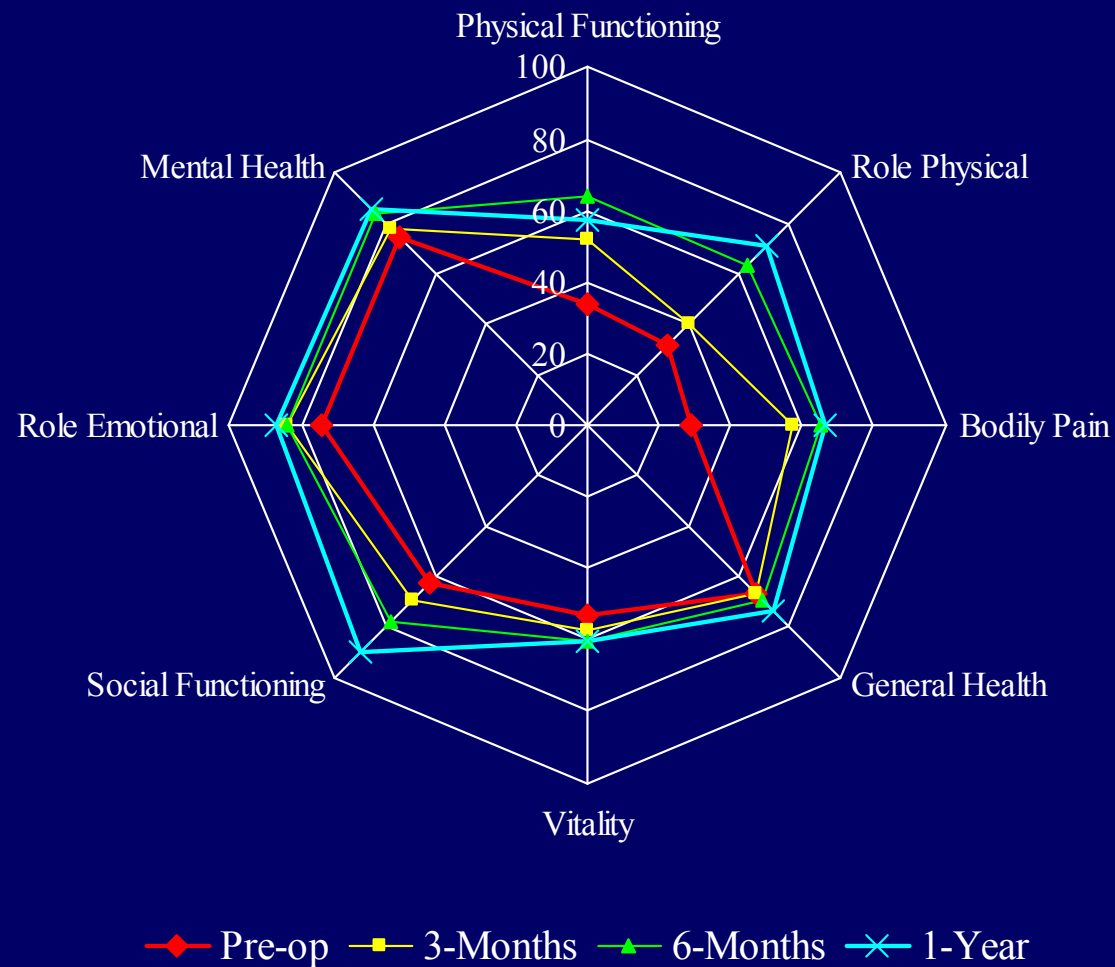
Note: Data on 27 OA, 13 RA and 15 PTOA

Preoperative & Follow-up SF-36 (OA)



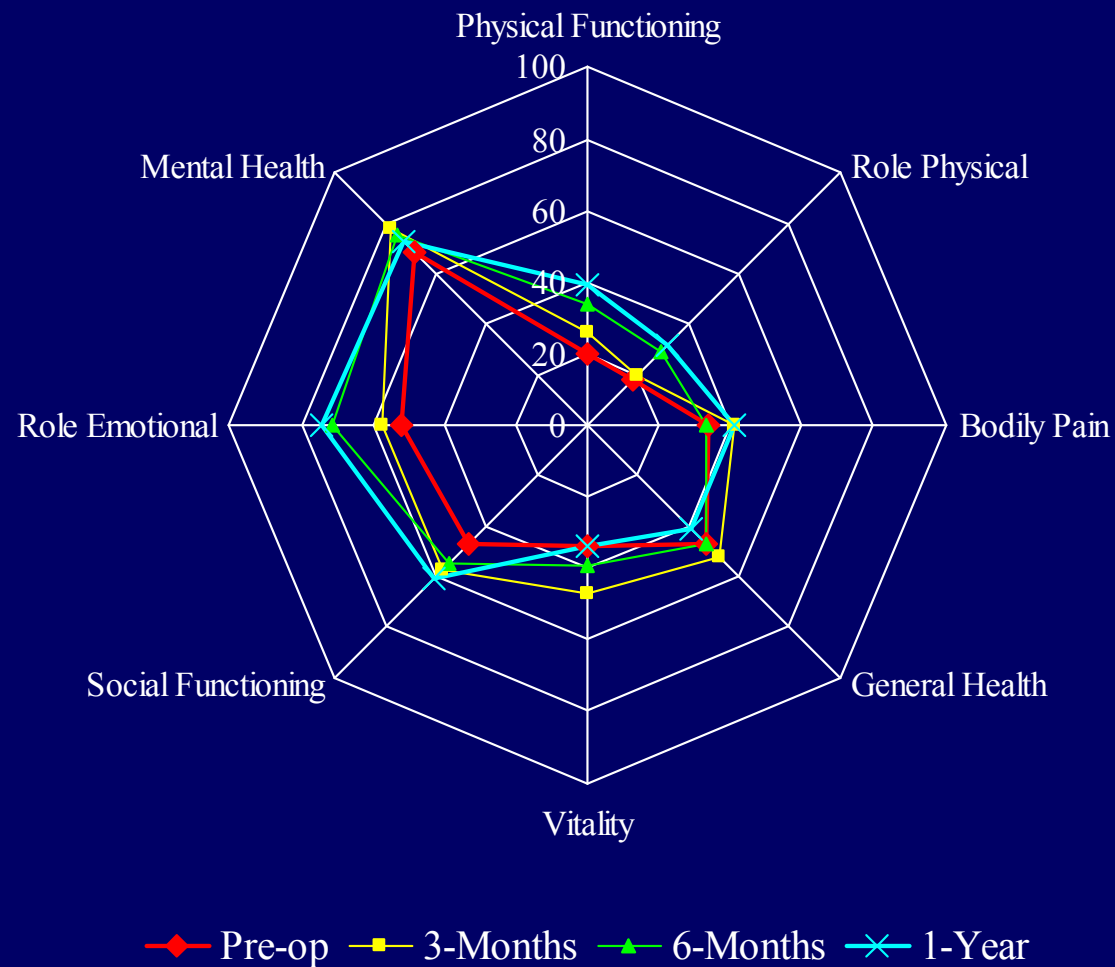
Note: Data on 59 preoperative, 38 at 3-months, 30 at 6-months & 27 at 1-Year

Preoperative & Follow-up SF-36 (PTOA)



Note: Data on 35 preoperative, 18 at 3-months, 18 at 6-months & 15 at 1-Year

Preoperative & Follow-up SF-36 (RA)



Note: Data on 20 preoperative, 12 at 3-months, 13 at 6-months & 13 at 1-Year

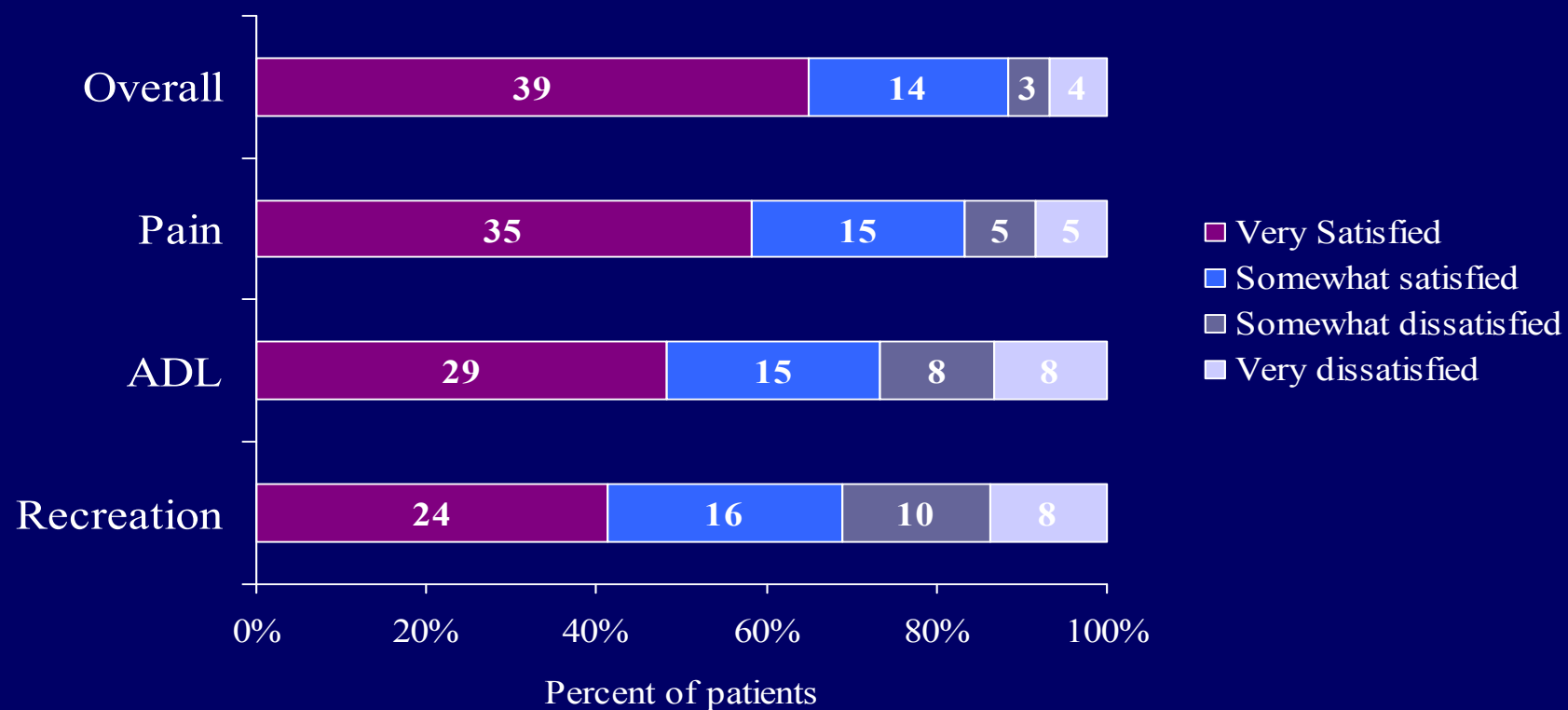
Conclusions

- Similar WOMAC and SF-36 scores preoperatively
- PTOA patients have better WOMAC and SF-36 outcomes; significant at 12-months
- OA patients less satisfied than PTOA and RA patients at 12-months; especially with functional outcomes

Thank you

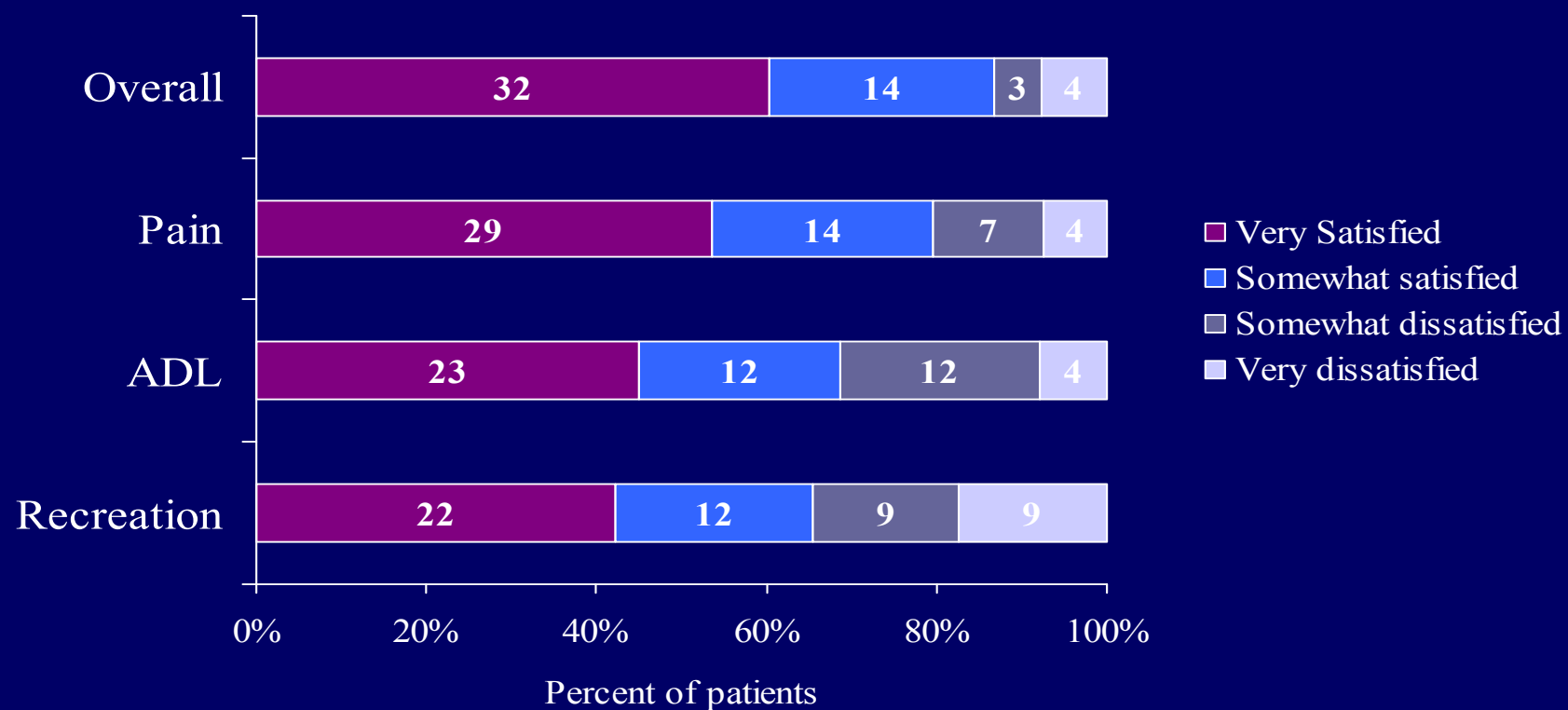


Satisfaction at 6-Months



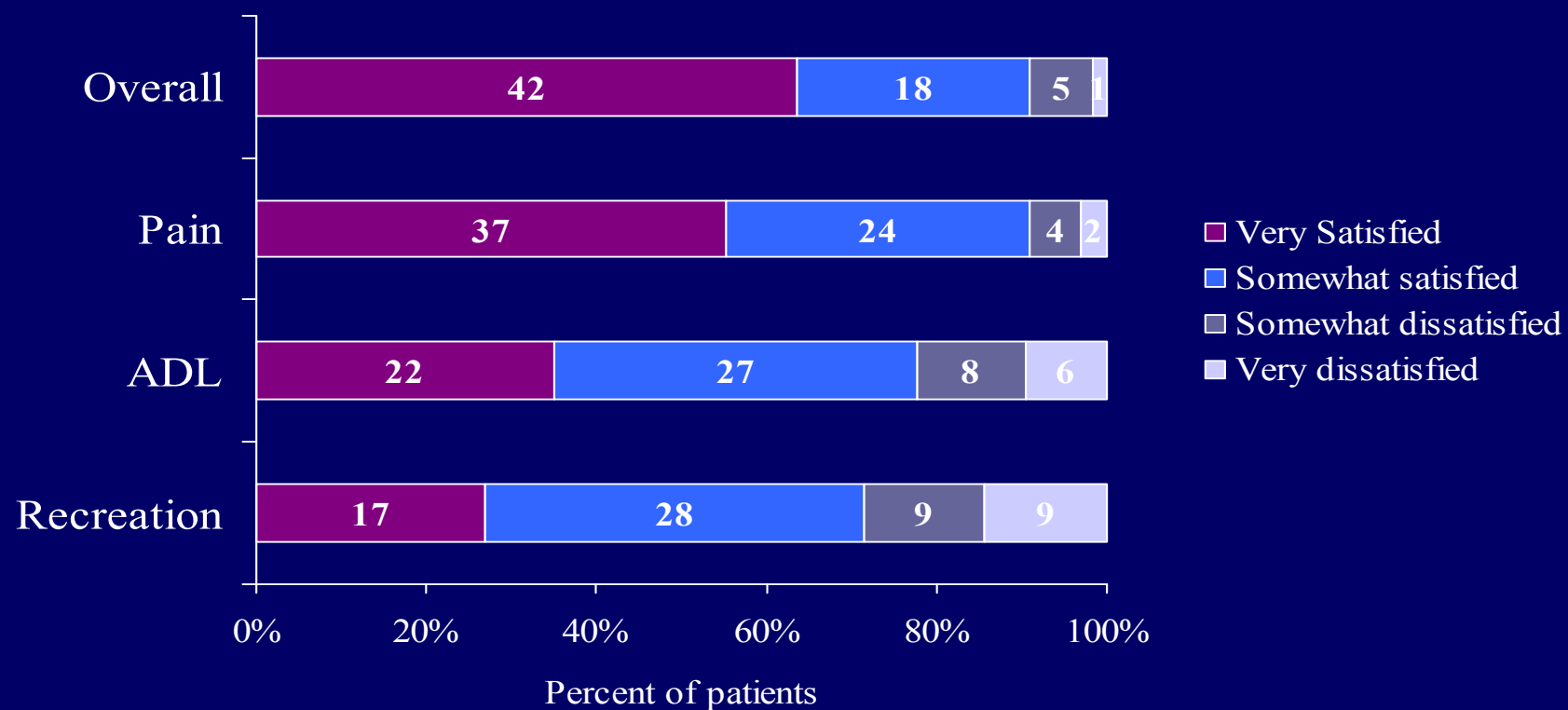
Note: Data on 60 TAR at 6-months

Satisfaction at 12-Months



Note: Data on 54 TAR at 12-months

Satisfaction at 3-Months



Note: Data on 68 TAR at 3-months



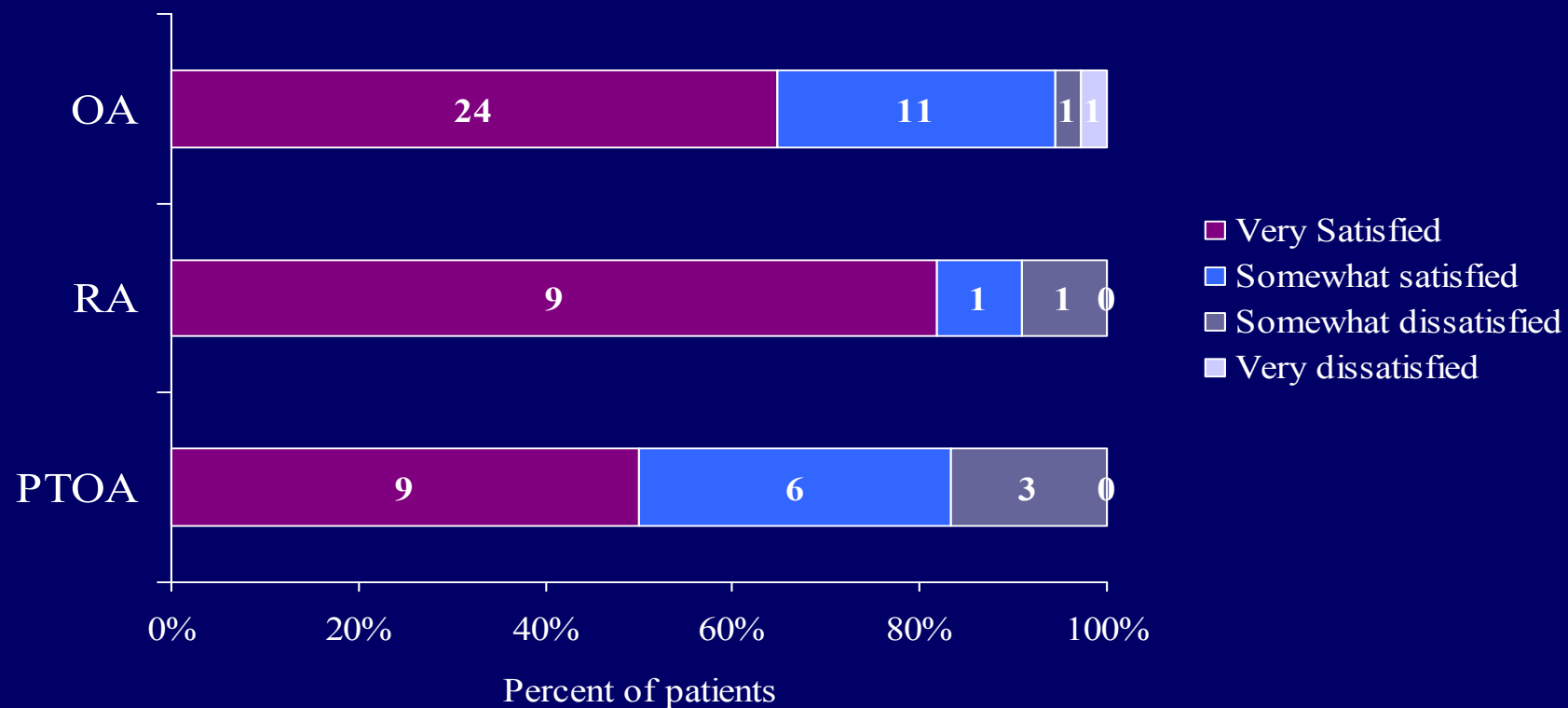
Satisfaction with outcome

- Asked on follow-up questionnaires
- Patient rates how satisfied they are with the results of surgery:
 - Overall
 - Pain relief
 - Ability to do ADL
 - Ability to do recreational activities
- Responses are very satisfied, somewhat satisfied, somewhat dissatisfied and very dissatisfied

SF-36 by Diagnosis

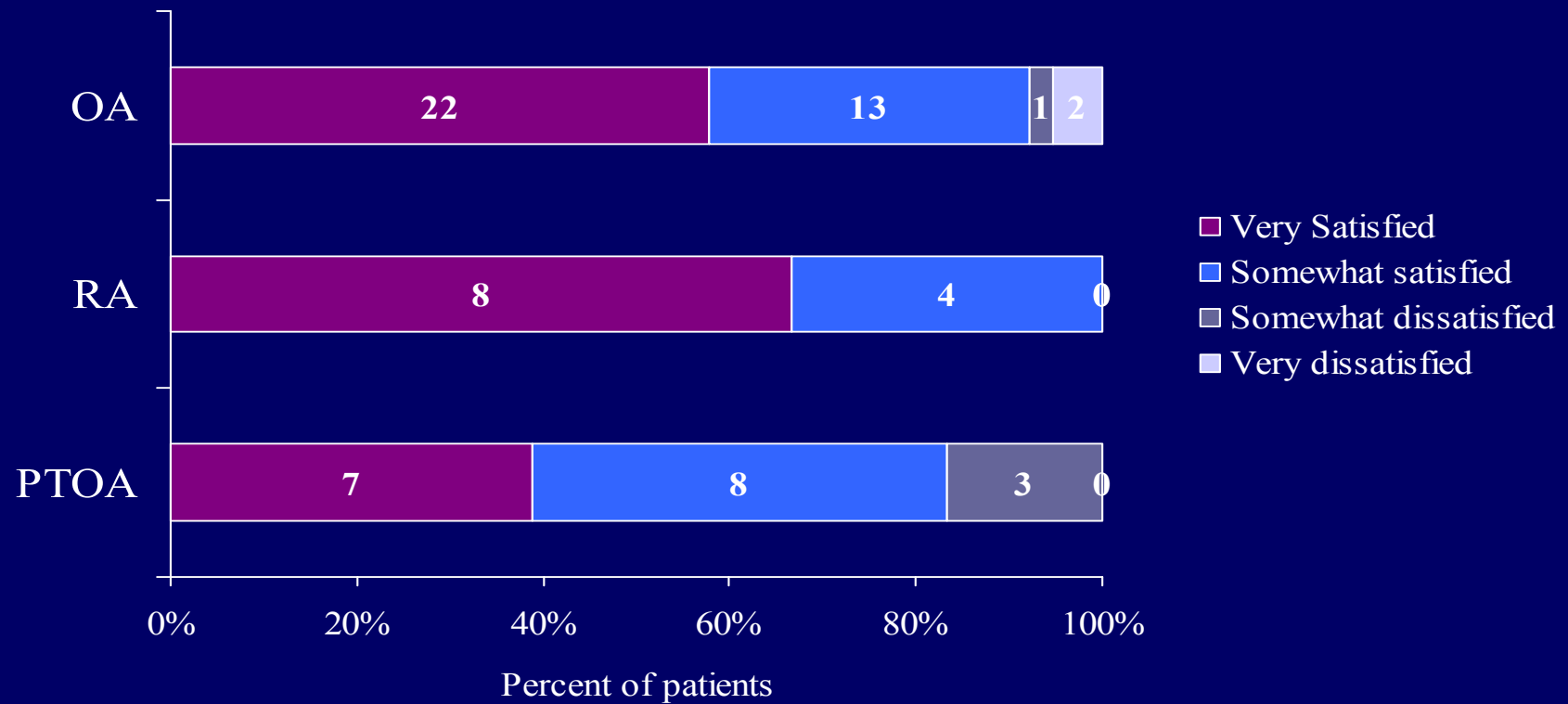
- Preoperative scores – no significant difference by diagnosis
- At follow-up PTOA report better scores than OA and RA
- PTOA patients significantly better for the following domains at:
 - 3-months
 - physical functioning, general health and role emotional
 - 6-months
 - physical functioning, bodily pain, general health, vitality & role physical
 - 12-months
 - physical and social functioning, general health, vitality, & role physical

Overall Satisfaction at 3-Months



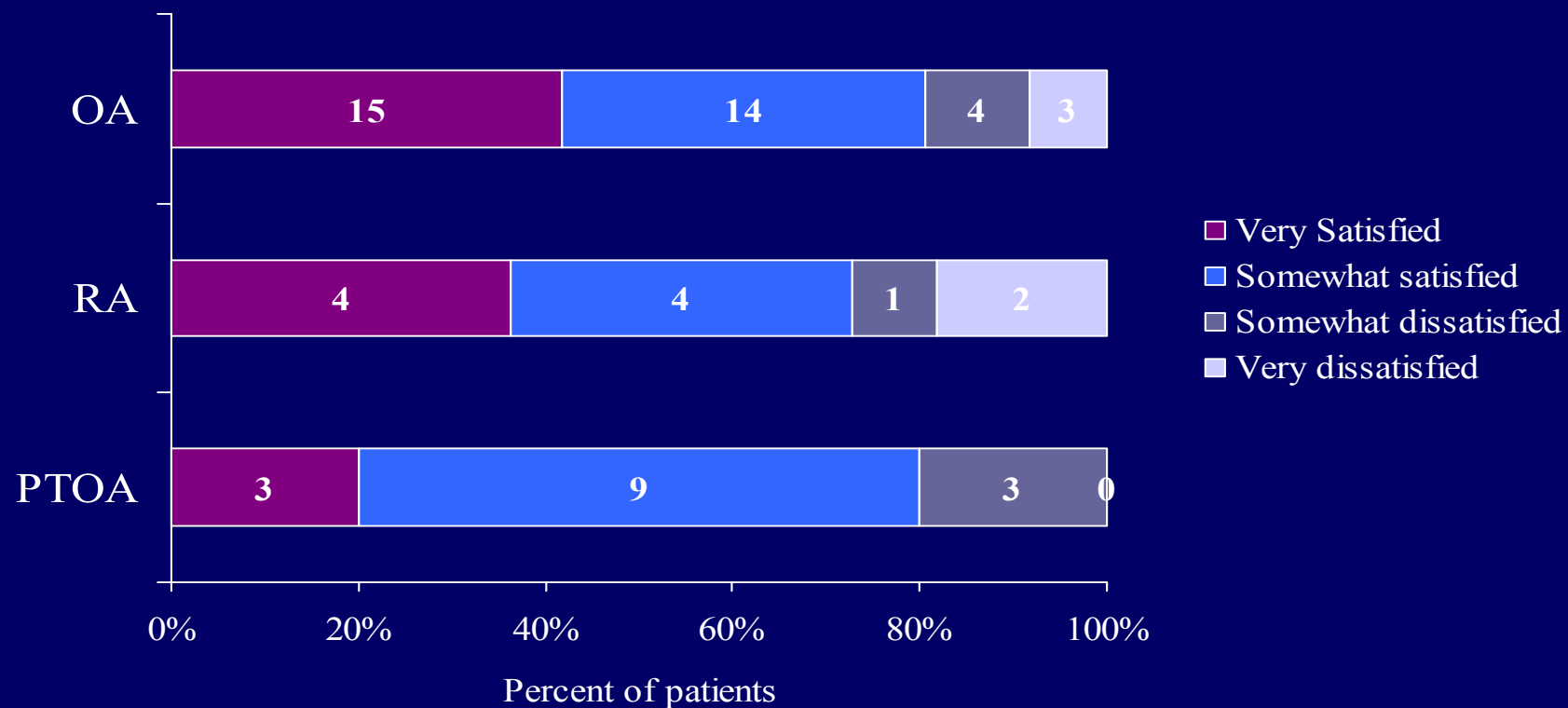
Note: Data on 38 OA, 12 RA and 18 PTOA patients at 3-months

Pain Satisfaction at 3-Months



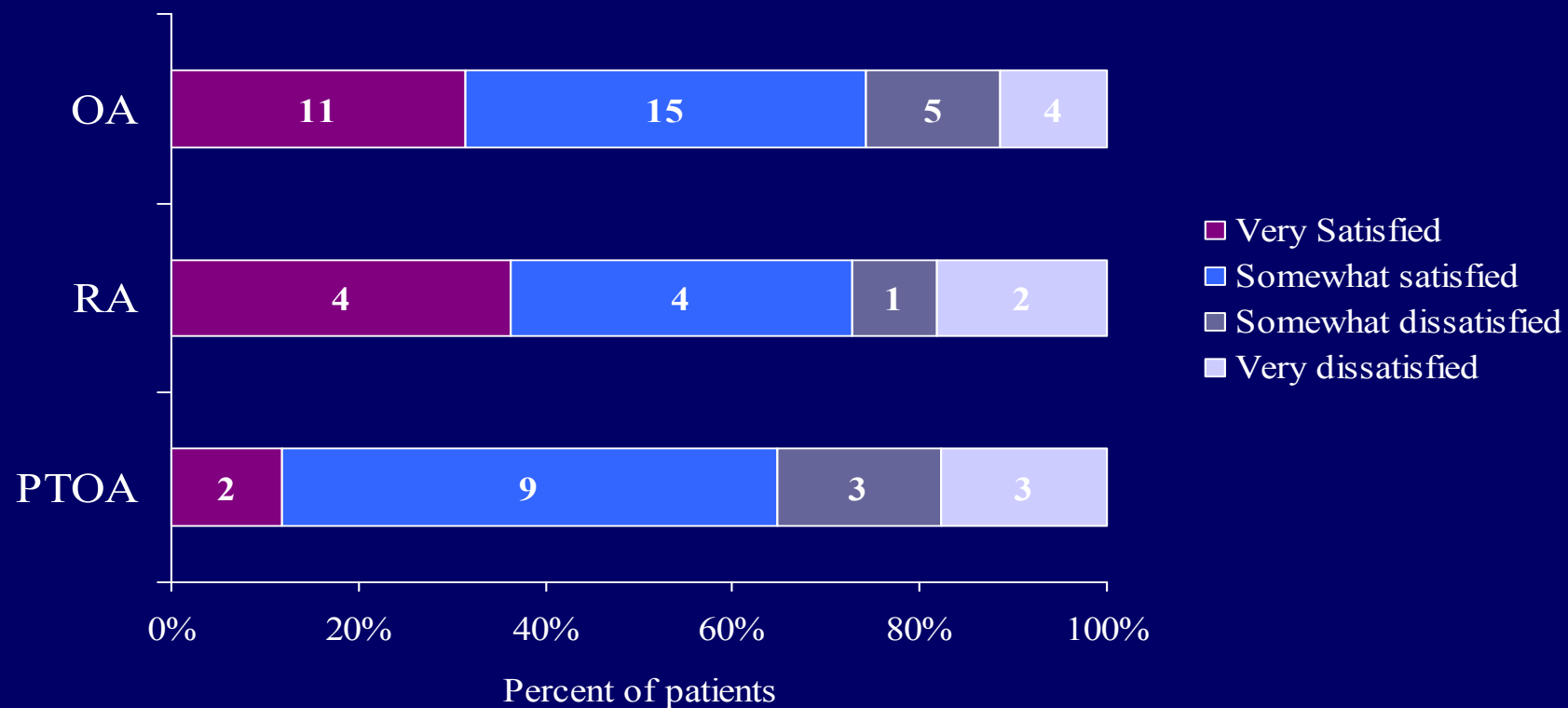
Note: Data on 38 OA, 12 RA and 18 PTOA patients at 3-months

ADL Satisfaction at 3-Months



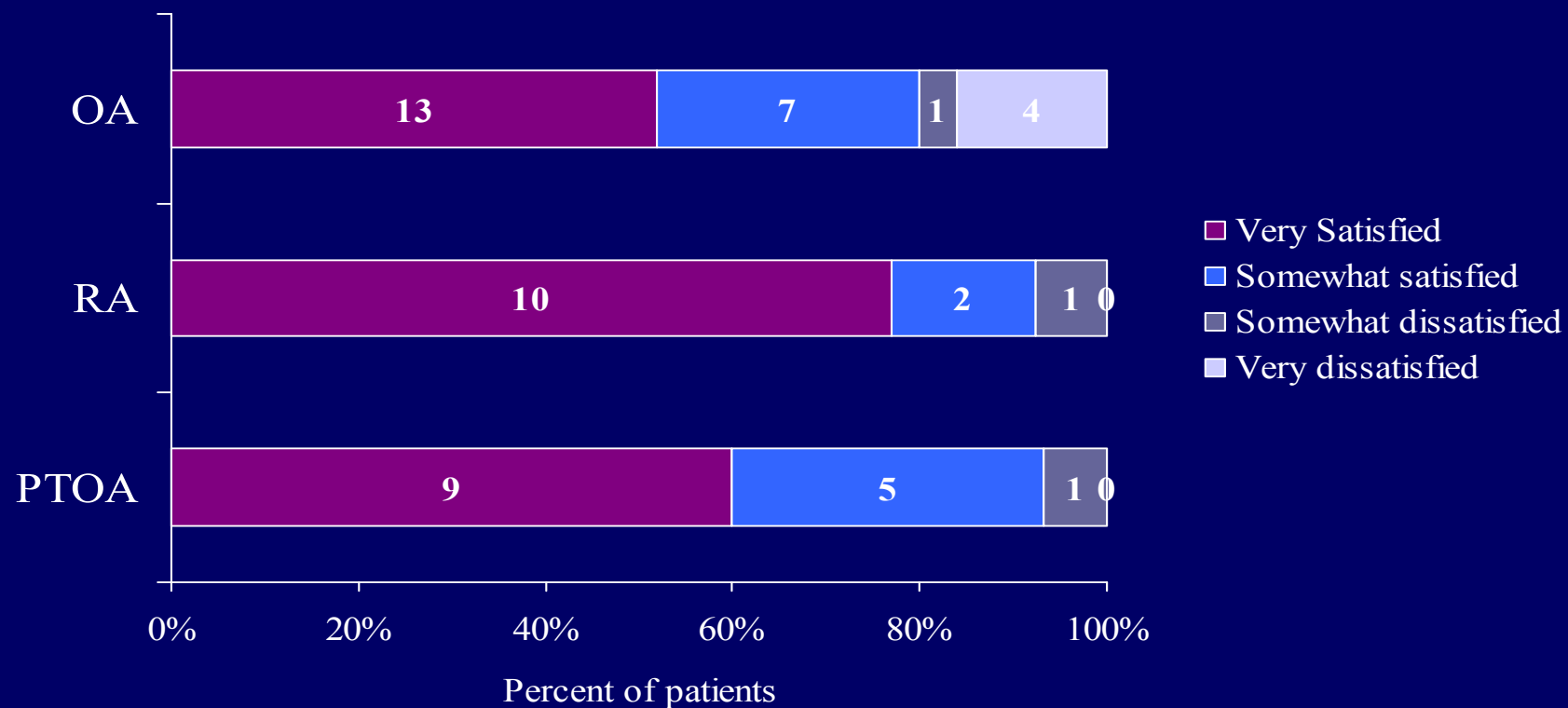
Note: Data on 38 OA, 12 RA and 18 PTOA patients at 3-months

Recreation Satisfaction at 3-Months



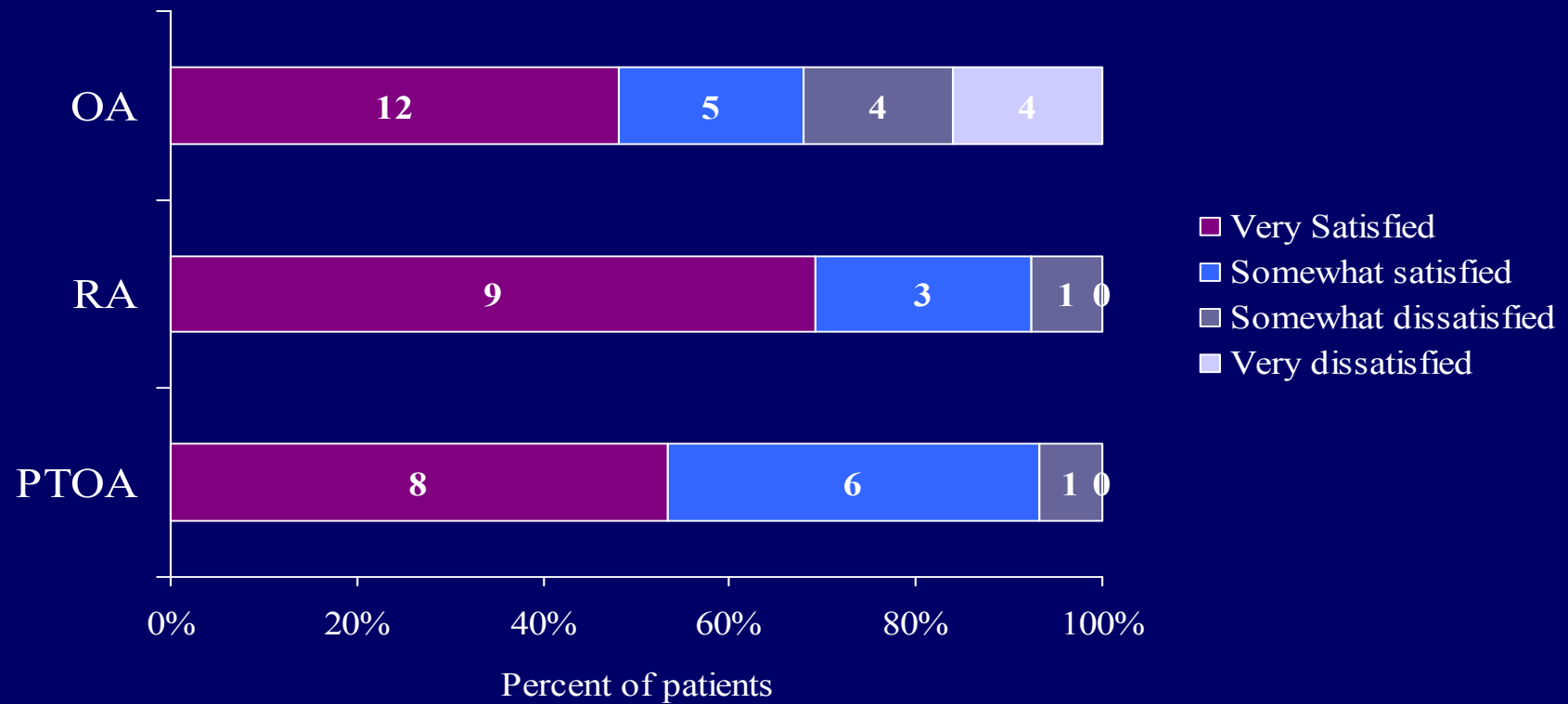
Note: Data on 38 OA, 12 RA and 18 PTOA patients at 3-months

Overall Satisfaction at 12-Months



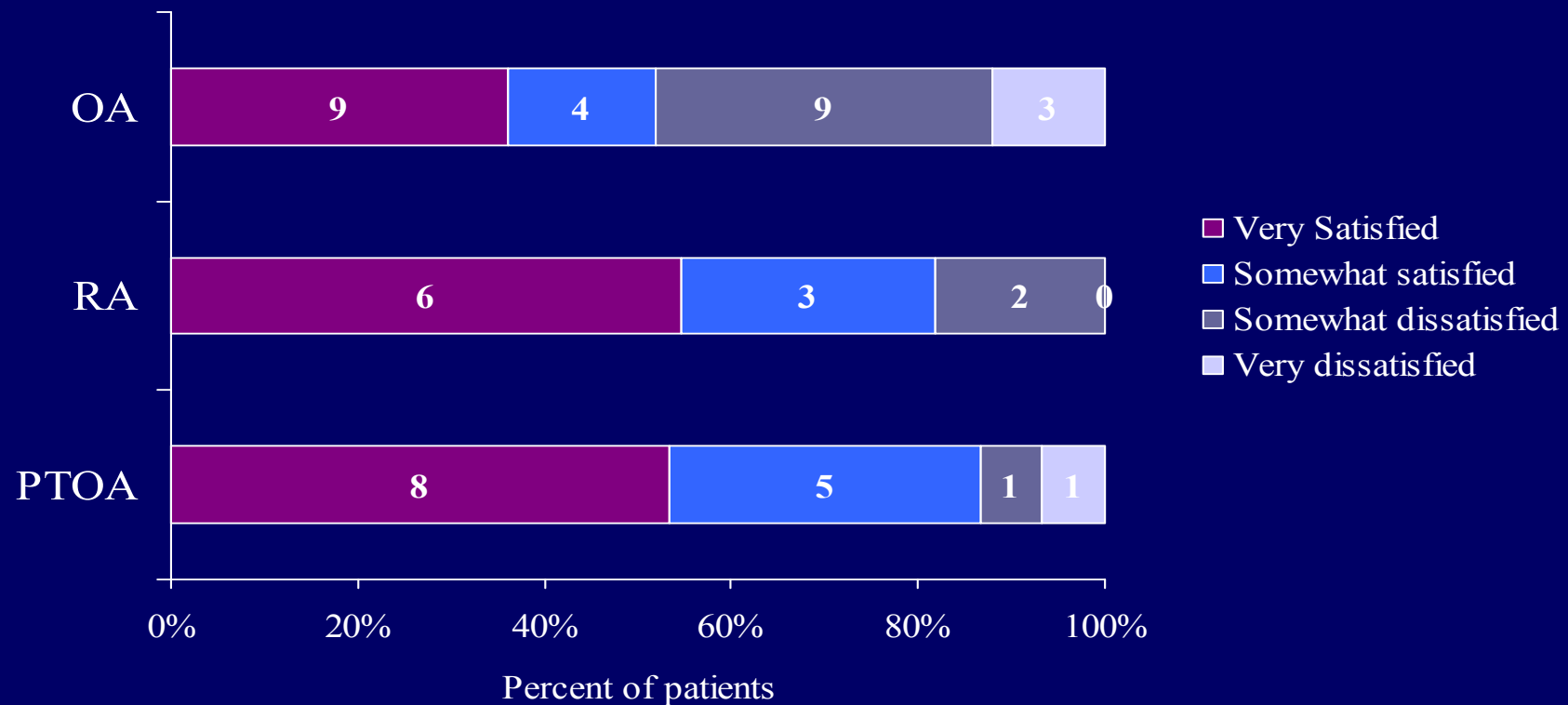
Note: Data on 26 OA, 13 RA and 15 PTOA patients at 12-months

Pain Satisfaction at 12-Months



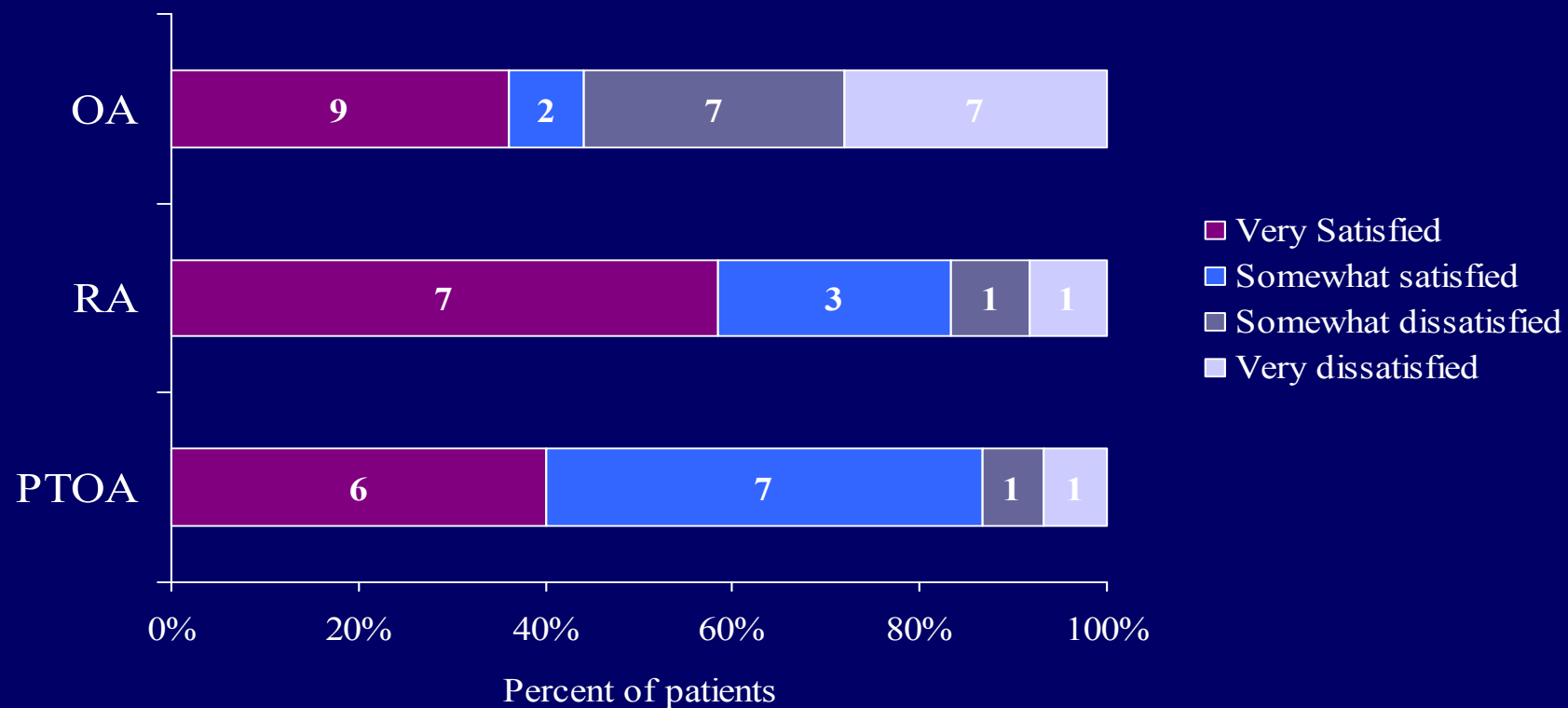
Note: Data on 26 OA, 13 RA and 15 PTOA patients at 12-months

ADL Satisfaction at 12-Months



Note: Data on 26 OA, 13 RA and 15 PTOA patients at 12-months

Recreation Satisfaction at 12-Months



Note: Data on 26 OA, 13 RA and 15 PTOA patients at 12-months