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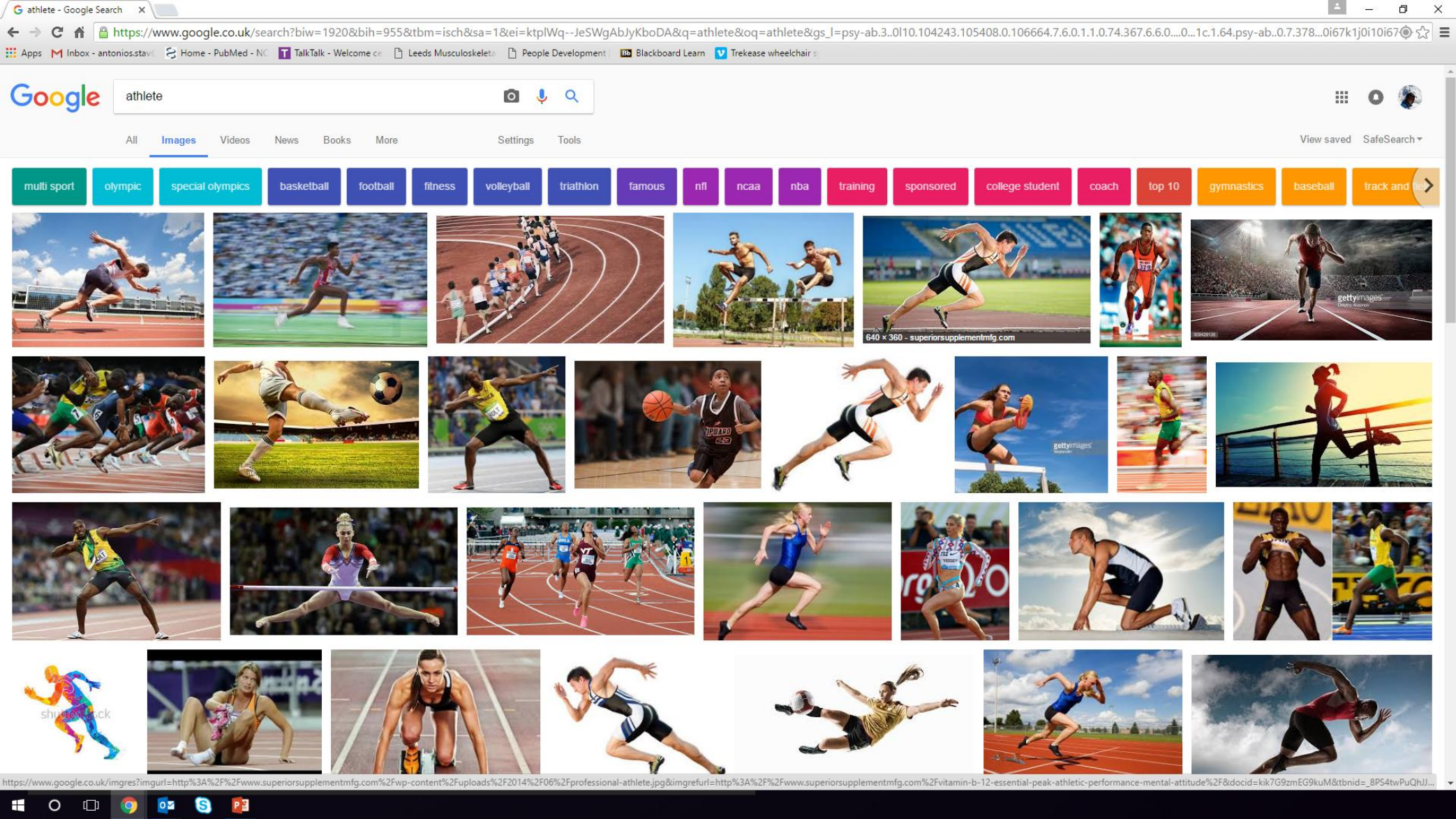
ΑΣΘΕΝΗΣ Ή ΑΘΛΗΤΗΣ; **Ο ρόλος της άσκησης στην PA**

- Ασθενής vs Αθλητής
- Η άσκηση στην PA
 - Αξιολόγηση και προγραμματισμός
- Το μεγάλο ερώτημα
 - Ποια είναι η καλύτερη άσκηση για ασθενείς με PA;

Περίγραμμα διάλεξης

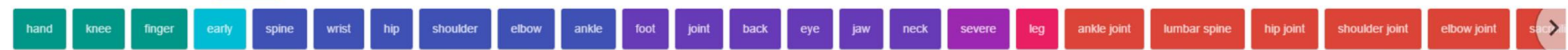


Ασθενής vs Αθλητής



Athlete





Rheumatoid Arthritis

Αθλητής

Σκοπός: **νίκη**

Μέθοδος: **βελτίωση της σωματικής απόδοσης**

Ασθενής

Σκοπός: **υγεία/ποιότητα ζωής**

Μέθοδος: **βελτίωση της σωματικής απόδοσης**

Η οπτική του επαγγελματία άσκησης

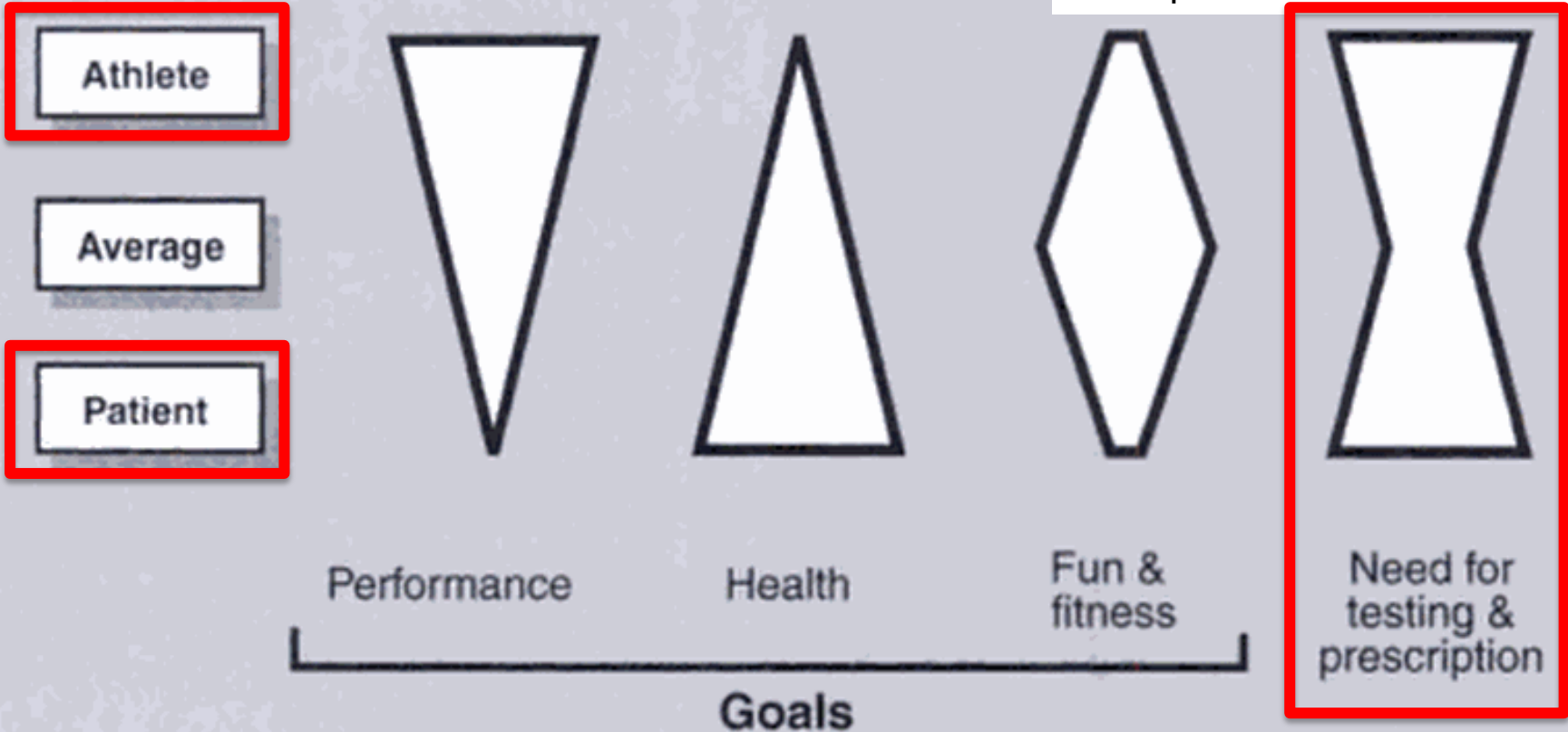


FIGURE 2-1 The goals and need for precise testing and exercise prescription in different types of persons.

Η προπονητική προσέγγιση



Αξιολόγηση

“The process by which a person’s recommended exercise regime is designed in a systematic and individualised manner”

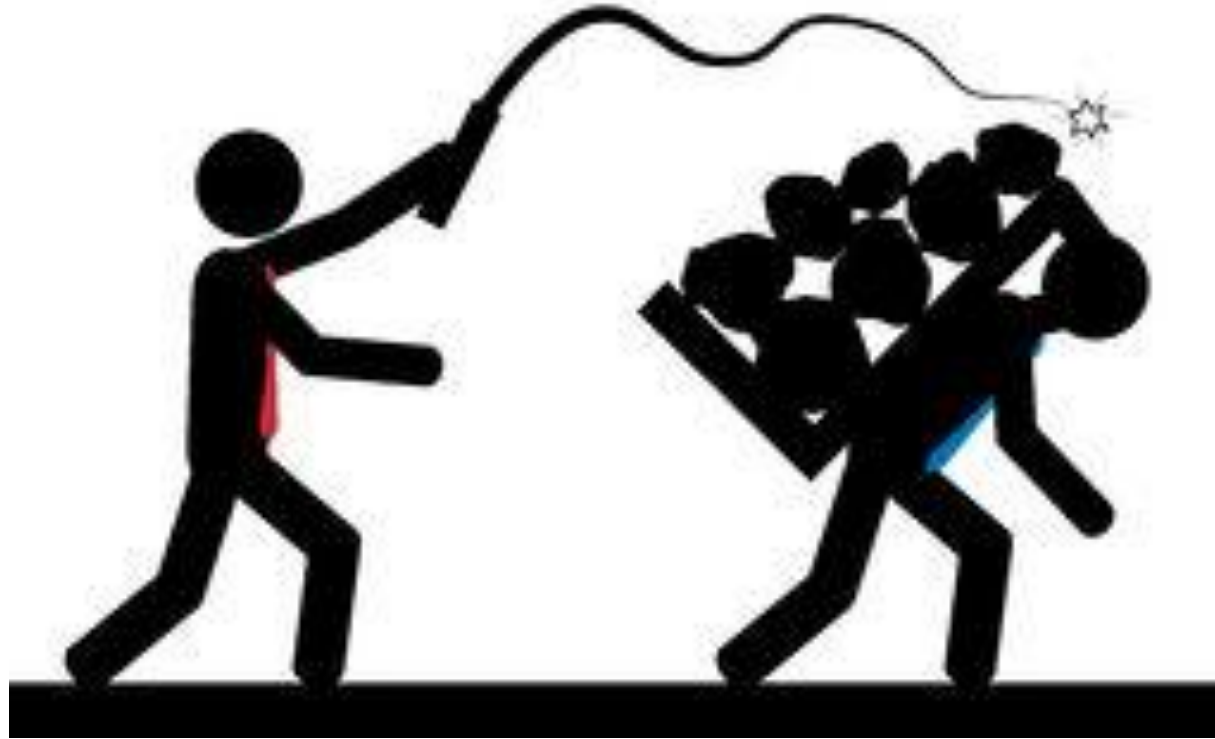
(ACSM, Guidelines for exercise testing and prescription)

Exercise prescription

Η άσκηση δεν είναι φυσιοθεραπεία!

- Βελτίωση στη λειτουργία συστημάτων του οργανισμού που συμμετέχουν στην κίνηση
 - (όλα αλλά κυρίως...)
 - Καρδιαγγειακό
 - Αναπνευστικό
 - Μυοσκελετικό

Στόχοι ενός προγράμματος άσκησης



Η άσκηση στην ΡΑ

Προπονητικός κύκλος



Frequency: **Τουλάχιστον 3-5** ημέρες ανά εβδομάδα

Intensity: Μέτρια ($60\% \text{ VO}_2\text{max} \approx 70-75\% \text{ HRmax}$)

Type: Αερόβια, αντιστάσεις, διατάσεις

Time: 150' ανά εβδομάδα (ή 75' έντονης άσκησης)

ACSM guidelines

Box 1 Design of the exercise intervention

Exercise prescription

Baseline to 3 months (aerobic training)

Frequency: Three times per week; two at a supervised setting (ie. Action Heart), one unsupervised

Intensity: 70% of VO_{2max} ; as indicated by heart rate corresponding to 70% of VO_{2max} attained during the exercise tolerance test

Type: Three circuits of 3–4 aerobic exercises in intervals of 3–4 min each; aerobic exercises included: brisk walking on treadmill, cycling on stationary bicycle, rowing on row-ergometer, hand-cycling on arm-ergometer

Time: 60 min; including 10 min warm-up (gentle range of motion exercises), 30–40 min main session (as described in type above), 5–10 min cool down.

3–6 months (aerobic and resistance training)

In addition to the above, resistance exercises were added as follows:

Frequency: as above

Intensity: as above for aerobic exercise; resistance exercise 70% of 1RM as indicated by a submaximal protocol (4–6RM)

Type: In addition to the above at the end of each circuit, patients were asked to complete one set of 12–15 repetitions of the following resistance exercises: leg press, shoulder press, chest press and pull ups

Time: 70 min; resistance exercises added 10 min to the main session



Individualised aerobic and resistance exercise training improves cardiorespiratory fitness and reduces cardiovascular risk in patients with rheumatoid arthritis

Antonios Stavropoulos-Kalinoglou, Giorgos S Metsios, Jet JJCS Veldhuijzen van Zanten, et al.

Αερόβια Ικανότητα

Attendance: 82%

Adherence: 88%

~20% βελτίωση στο
VO2max

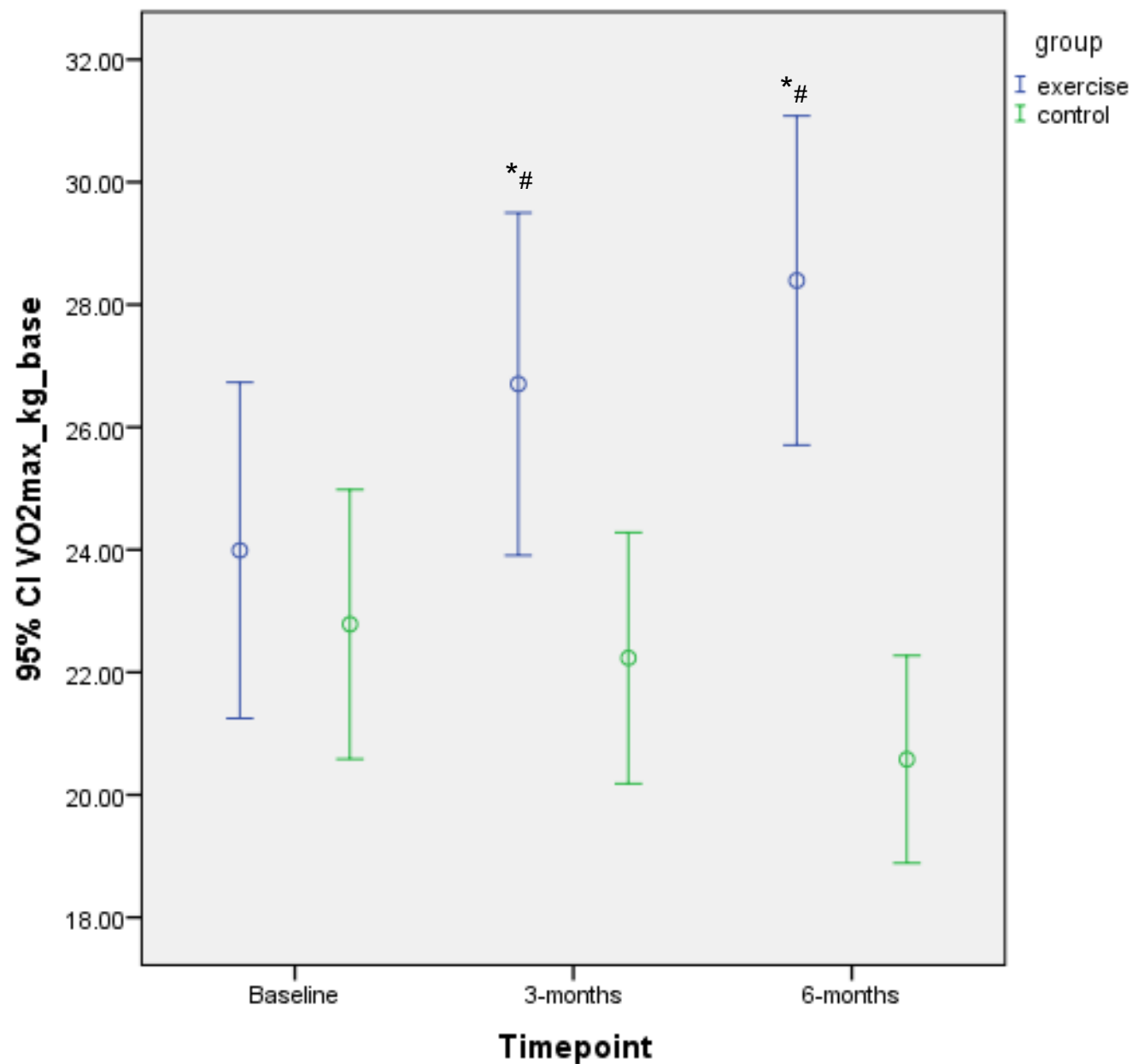


Table 2 Change in cardiovascular risk factors and body composition over time

	Exercise group			Control group			p Value (group×time interaction)
	Baseline	3 months	6 months	Baseline	3 months	6 months	
Systolic BP (mm Hg)	130.9±12.5	126.2±9.6*	123.8±11.5**	126.5±14.0	128.1±12.9	131.2±12.4*	<0.001
Diastolic BP (mm Hg)	78.6±6.2	75.9±6.7*	75.5±6.0*	75.8±8.8	77.9±10.3	79.3±8.1*	0.003
Triglycerides (mmol/l)	1.5±0.6	1.4±0.9	1.2±0.5*	1.6±0.9	1.6±1.0	1.7±0.9	0.031
TC (mmol/l)	5.0±1.0	4.9±1.1	4.7±1.1	4.8±1.0	4.7±1.0	4.9±1.0	0.079
HDL (mmol/l)	1.3±0.4	1.4±0.4	1.4±0.4	1.5±0.4	1.5±0.3	1.4±0.3	0.042
TC/HDL	3.9±1.1	3.7±1.0	3.5±0.8*	3.5±1.4	3.7±1.4	3.9±1.3	0.005
Insulin (pmol/l)	65 (50.5–95.2)	64.5 (44.3–104.8)	66.4 (51.3–101.5)	49 (21–90.2)	48.7 (20.1–77.4)	56.5 (21.5–104.5)	0.192
HOMA	2.5±1.6	2.2±1.5	2.4±1.3	1.7±1.2	1.7±0.8	1.5±0.8	0.098
QUICKI	0.336±0.050	0.342±0.040	0.346±0.033	0.360±0.056	0.358±0.027	0.368±0.065	0.214
10-year CVD risk (%)	1.0 (0–4.0)	1.0 (0–3.8)	1.0 (0–3.5)*	1.0 (0–3.0)	1.0 (0–5.0)	1.0 (0–5.0)	0.012
BMI (kg/m ²)	28.7±5.1	28.6±5.0	28.0±4.8*	28.8±5.3	29.0±5.5	29.1±5.4	<0.001
BF (%)	36.1±8.4	34.8±8.3*	33.6±7.9*	37.2±8.7	37.4±8.1	38.3±7.9	<0.001
HAQ	1.4±0.8	1.0±0.6**	0.9±0.6**	1.3±0.7	1.6±0.5	1.5±0.6	0.003
DAS28	3.5±1.2	2.9±0.8*	2.7±0.7*	3.1±1.2	3.1±0.6	3.2±0.9	0.008
CRP	3.0 (3.0–13.0)	3.0 (3.0–4.0)	4.0 (3.0–8.0)	3.0 (3.0–7.7)	5.0 (3.0–10.0)	7.0 (3.0–15.0)	0.042

Results expressed as mean±SD or median (range).

*Significant difference to baseline $p < 0.05$ (repeated measures ANOVA).

**Significant difference to baseline $p < 0.001$ (repeated measures ANOVA).

BF, body fat; BMI, body mass index; BP, blood pressure; Chol, cholesterol; CVD, cardiovascular disease risk; DAS28, Disease Activity Score 28; HAQ, Health Assessment Questionnaire; HDL, high density lipoprotein; HOMA, Homeostasis Model Assessment of Insulin Resistance; QUICKI, Quantitative Insulin Sensitivity Check Index; TC, total cholesterol.

Δραστηριότητα νόσου

Table 2 Median (IQR) and log transformed percentage increases for endothelial function in the exercise and control groups

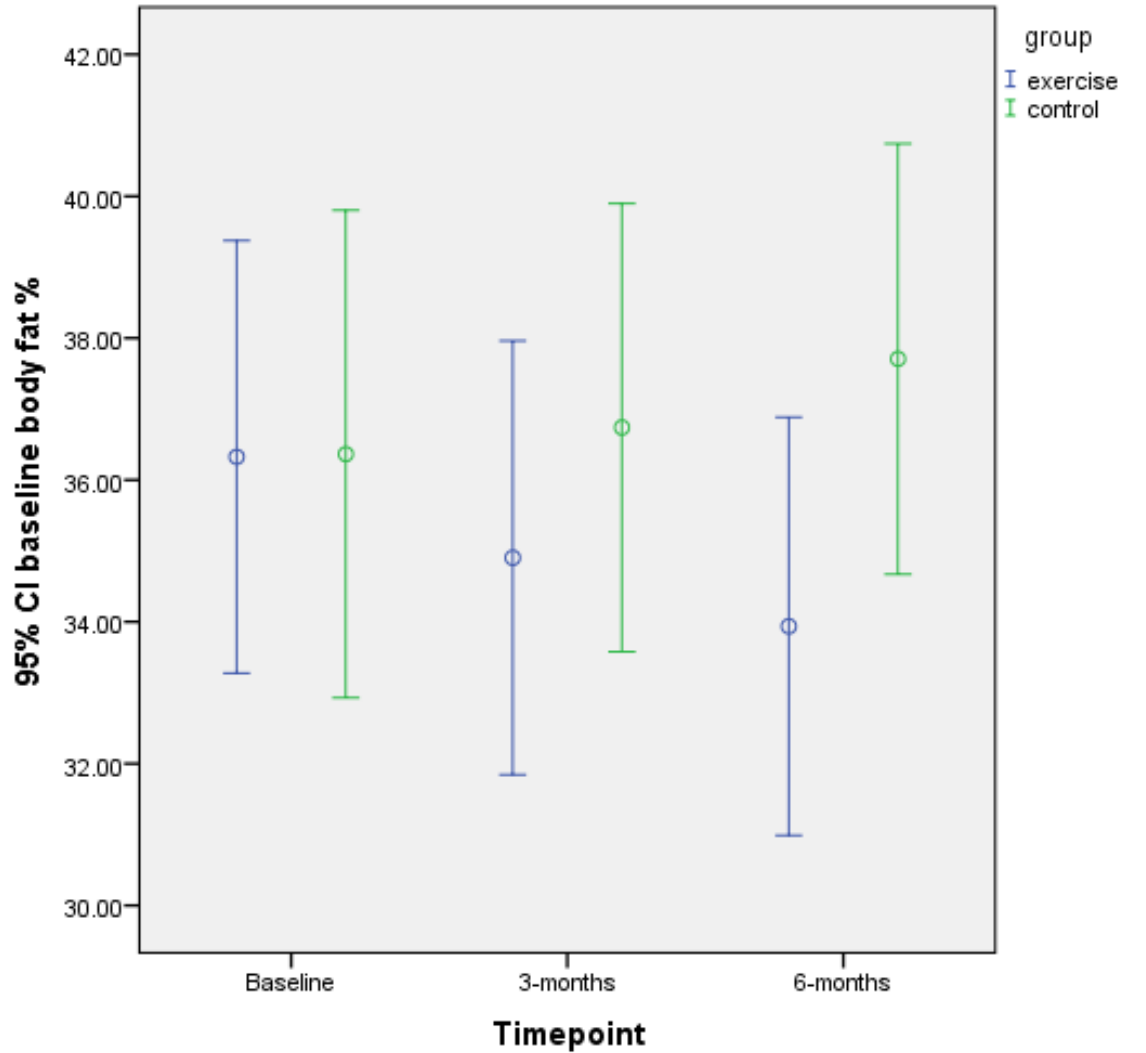
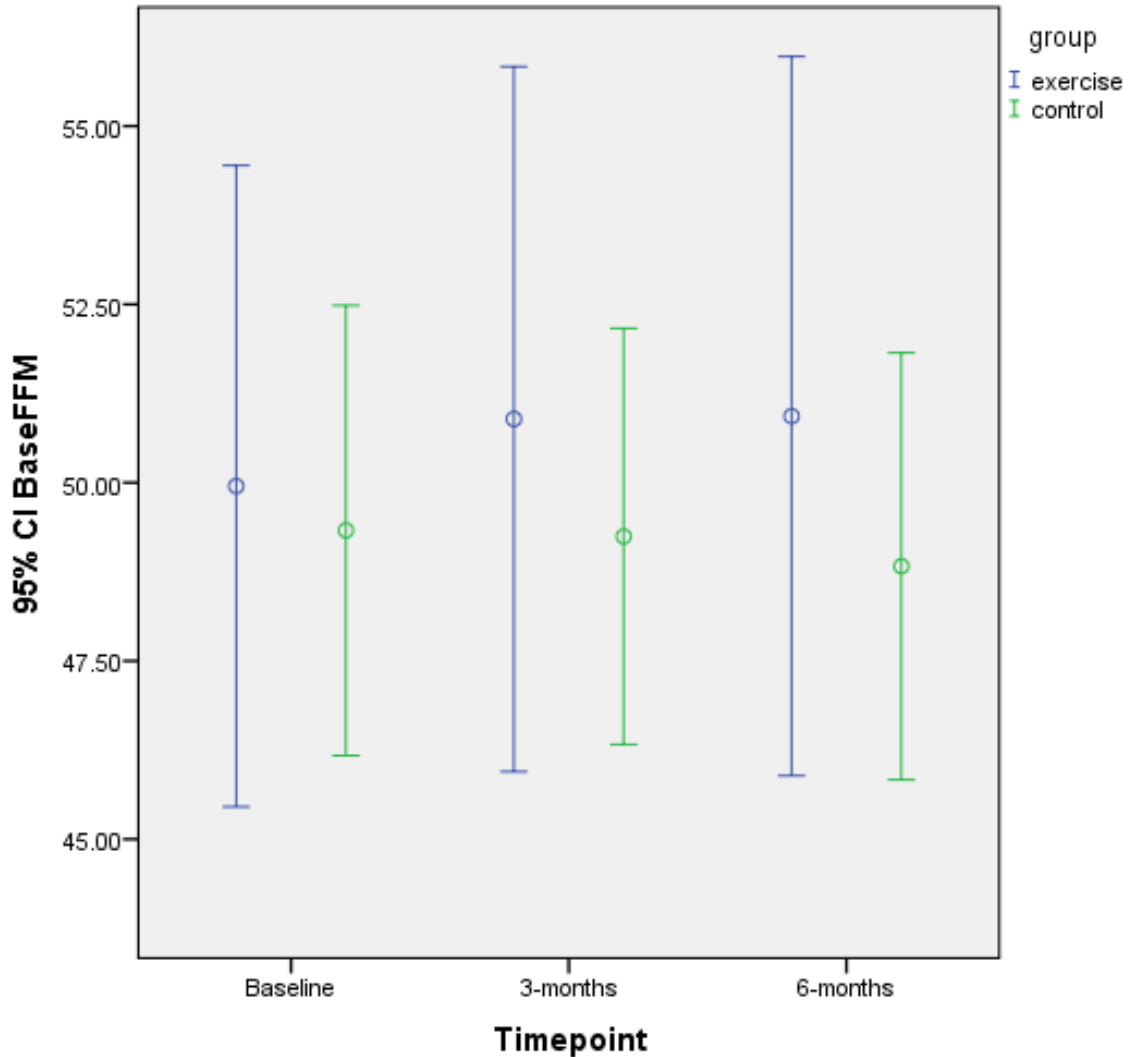
	Microvascular dependent Ach	Microvascular independent SNP	Macrovascular dependent FMD	Macrovascular independent GTN
Exercise group				
baseline	271.4 (133.3–485.7)	190.5 (107.8–365.7)	9.4 (2.2–10.8)	18.7 (12.9–22.8)
3-months	394.1 (288.5–600.0)	423.9 (227.6–608.1)	18.2 (11.5–24.7)	24.6 (21.0–30.1)
6-months	434.1 (244.7–644.7)	545.8 (303.8–700.1)	16.7 (12.6–26.7)	26.1 (19.3–38.7)
log baseline	2.4±0.5	2.3±0.4	0.8±0.4	1.2±0.2
log 3-months	2.5±0.2	2.6±0.3	1.2±0.2*	1.4±0.1**
log 6-months	2.7±0.4*	2.7±0.2*	1.2±0.2*	1.4±0.2
Control group				
baseline	331.8 (184.6–454.0)	318.1 (181.2–531.8)	7.4 (3.4–14.2)	20.9 (15.0–28.8)
3-months	275.9 (155.3–471.6)	241.7 (139.8–630.8)	9.9 (3.7–15.5)	15.0 (12.4–22.9)
6-months	235.7 (142.9–428.1)	249.8 (142.9–547.0)	7.9 (4.1–18.9)	27.0 (11.4–30.9)
log baseline	2.4±0.2	2.4±0.4	0.8±0.4	1.3±0.2
log 3-months	2.3±0.4	2.5±0.3	0.9±0.4	1.2±0.2
log 6-months	2.3±0.4	2.5±0.4	0.9±0.3	1.3±0.3

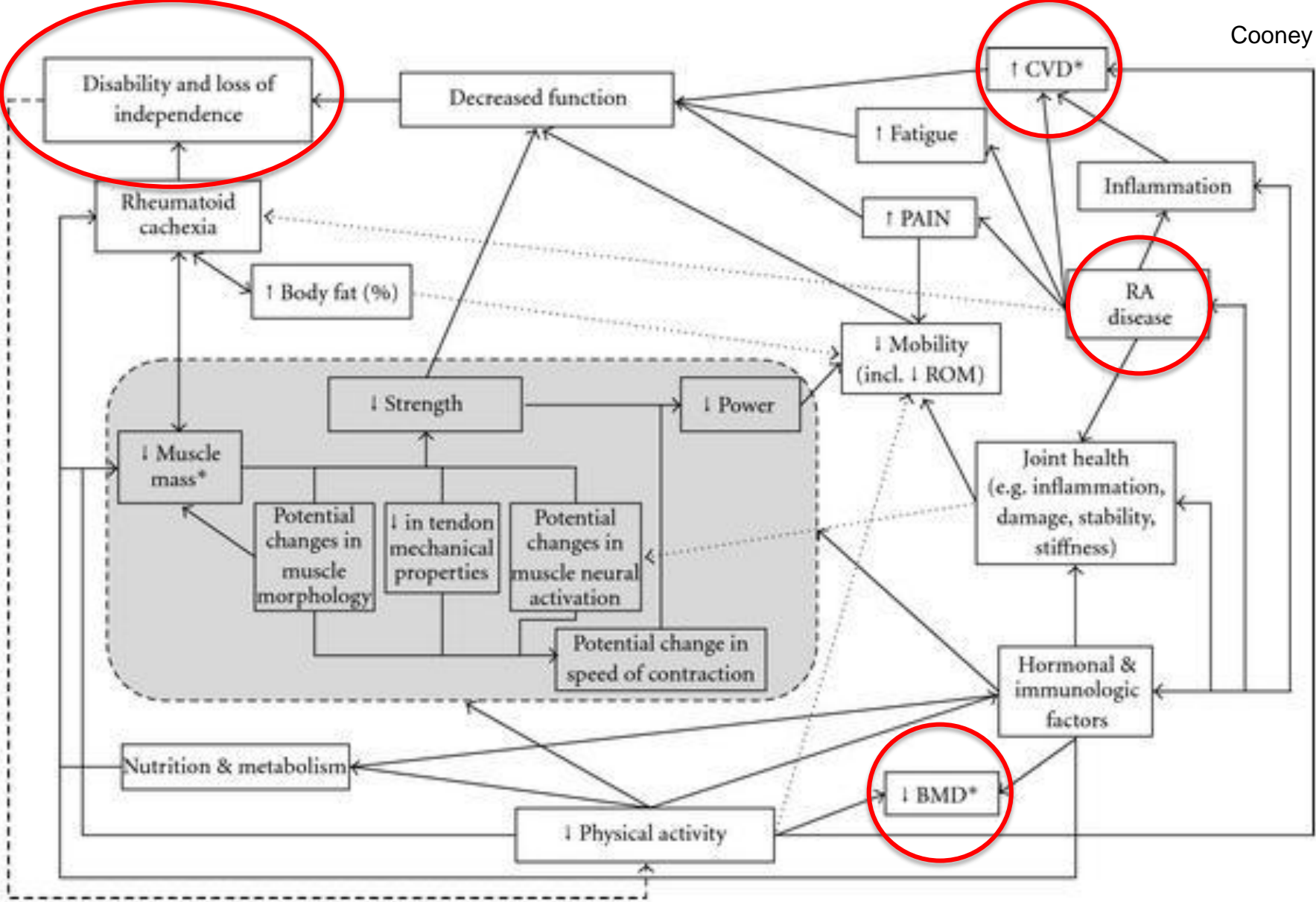
Repeated measures analysis of variance in the log values: significant from baseline * p<0.05 and **p<0.001.

Ach, acetylcholine; FMD, flow-mediated dilatation; GTN, glyceryl trinitrate; SNP, sodium nitroprusside.

Ενδοθηλιακή λειτουργία

Σωματοδομή

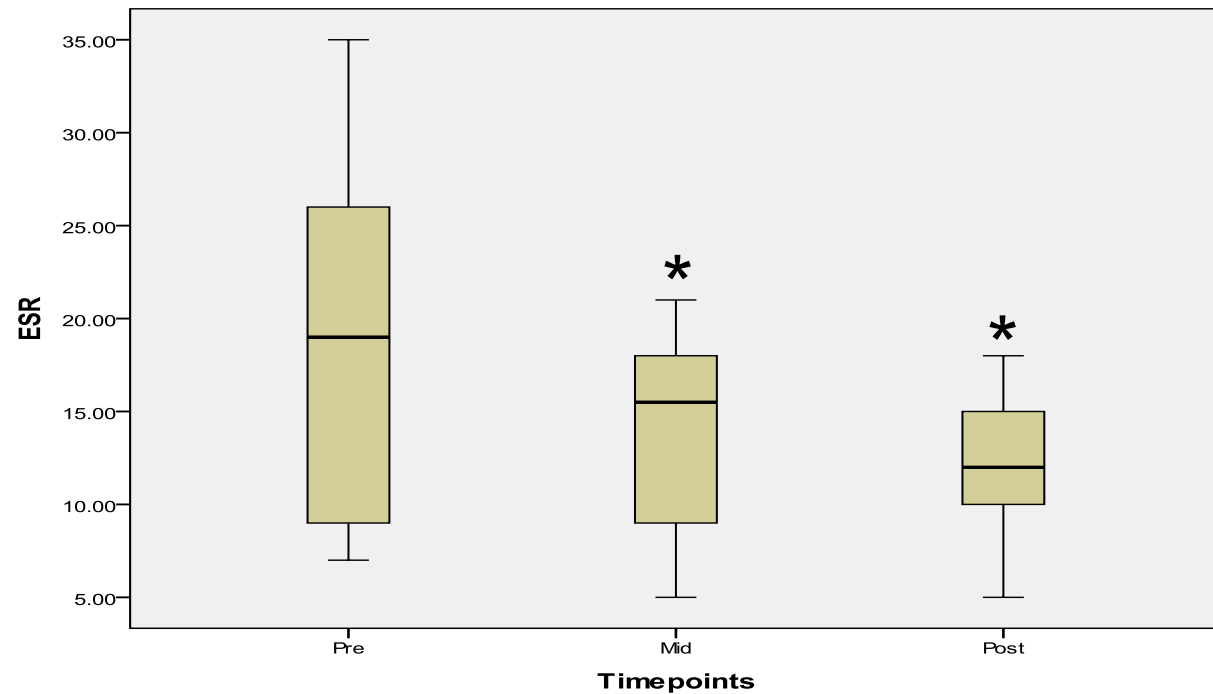
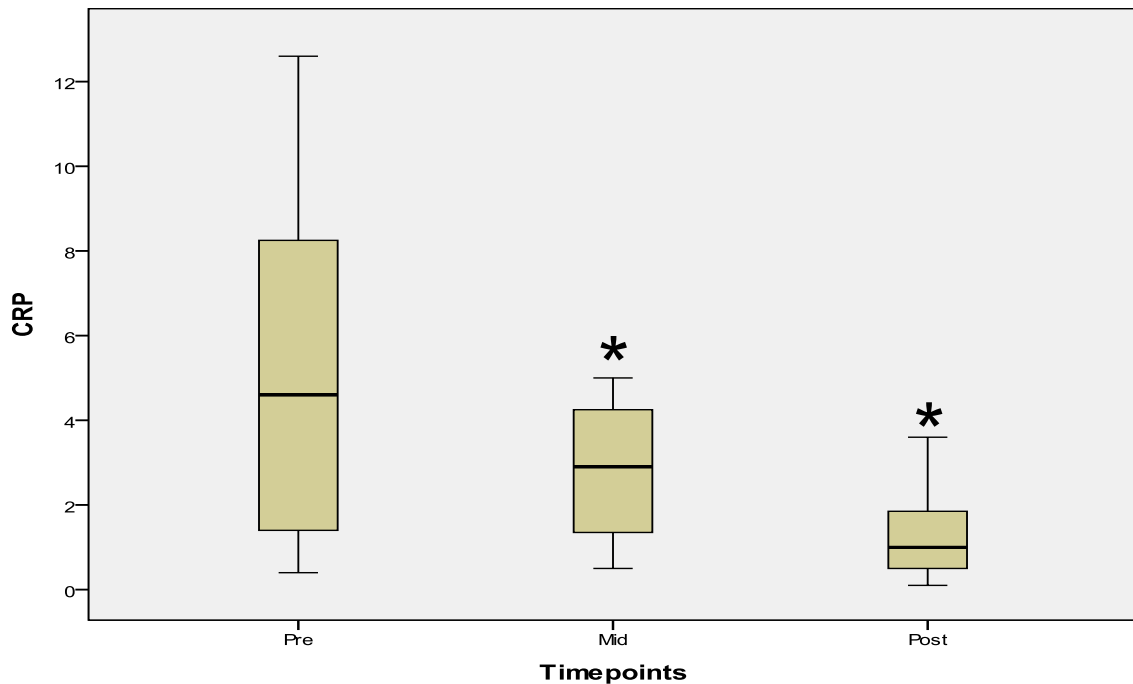




Σημασία του μυός στην RA

Απώλεια βάρους σε εξάρσεις της PA

Variable	Admission	Day 7	Day 14	Sig.
Weight (kg)	76.5 (13.0)	75.8 (13.0)	74.8 (12.9)	P<0.001
FFM (kg)	56.3 (8.1)	55.9 (8.3)	55.3 (8.1)	P=0.002



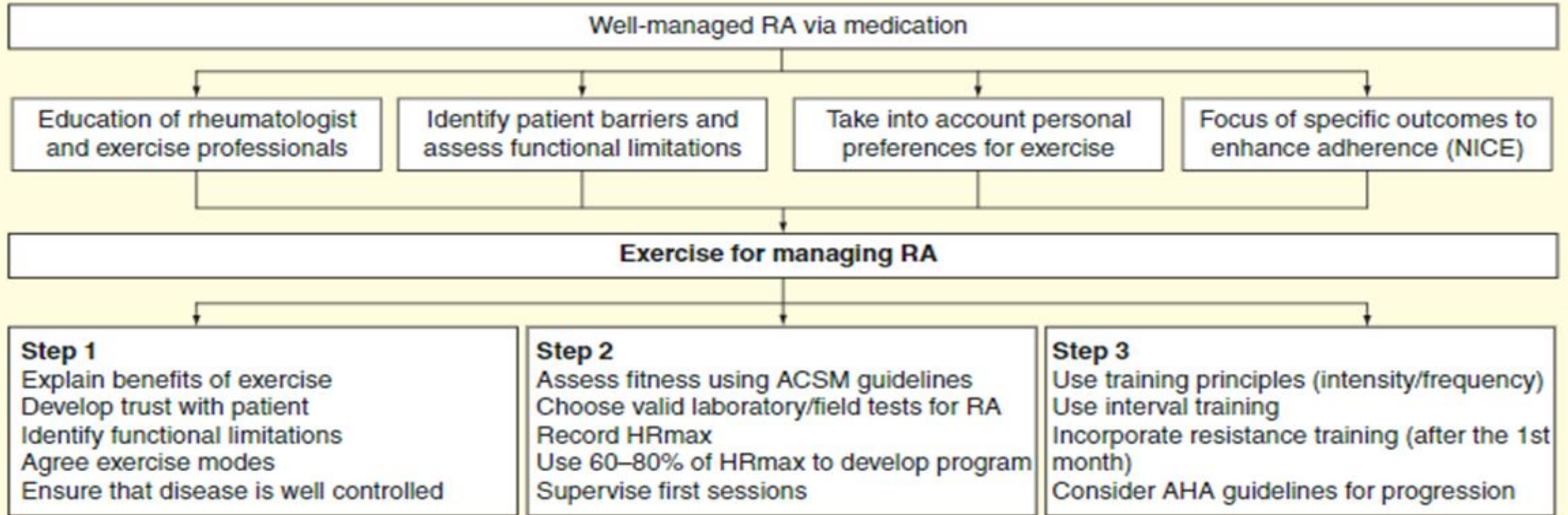


Figure 2. Steps of incorporating exercise in the management of Rheumatoid Arthritis.

Metsios et al., 2015 Exp Rev Clin Immun

Exercise in the Management of RA

Γιατί δεν ασκούμεστε;



Δεν υπάρχουν τα κατάλληλα προγράμματα!

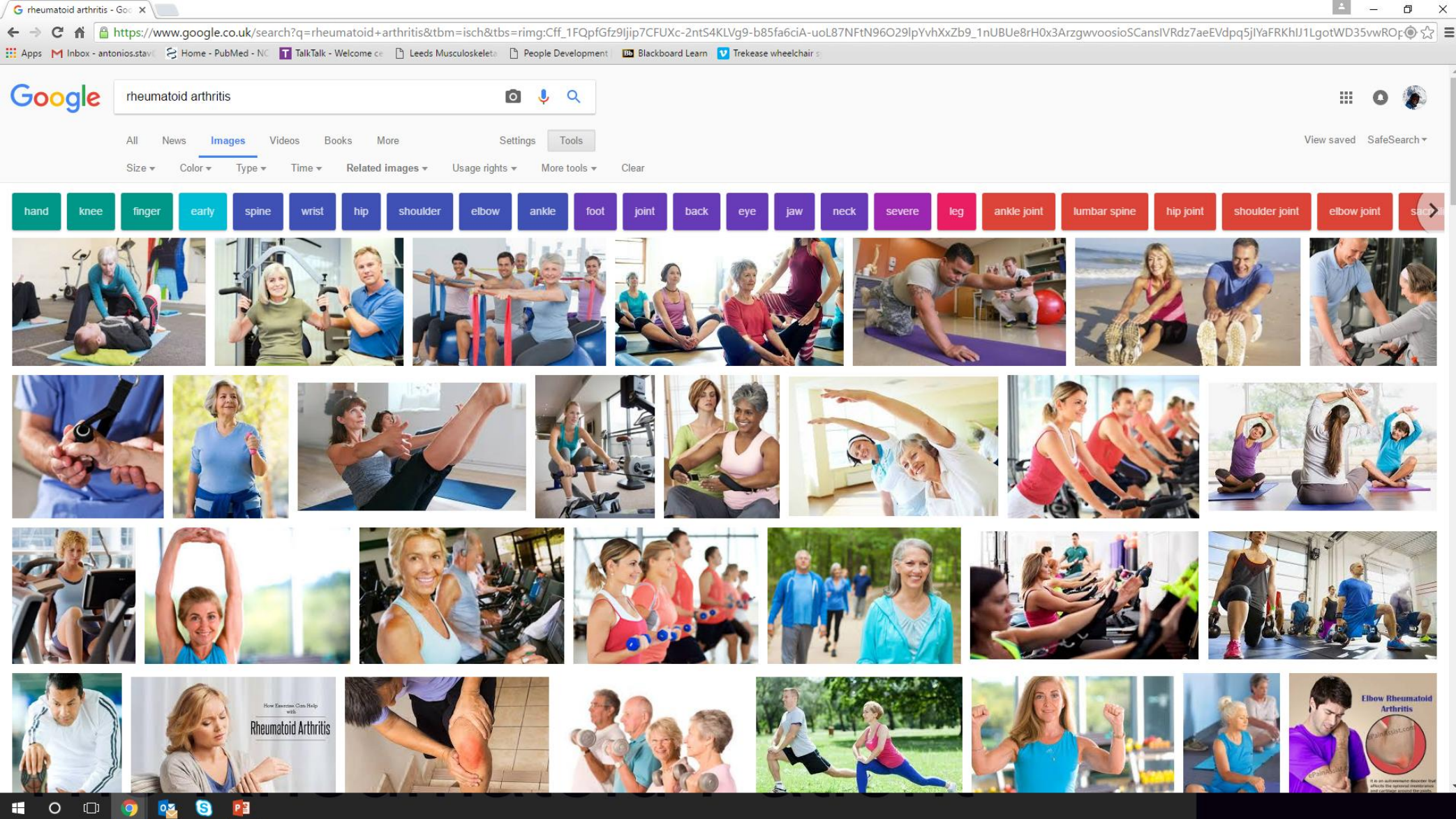


“When I agreed to try Pilates, I thought it was an Italian restaurant.”

Ποια είναι η καλύτερη άσκηση;

Αυτή που ο καθένας θα κάνει!

Η απάντηση στο μεγάλο ερώτημα!



My RA



The Exercise Pill...



"To treat your high blood pressure, diabetes, hyperlipidemia, osteoporosis... take this new pill every day. Take it out for a jog, then take it to the gym, then take it for a bike ride..."

Ευχαριστώ για την προσοχή σας!