TBAR-VP. However, significant differences were not found between the experimental groups in any measured variable.
Conclusions: It appears that mice with a reduced intake of calories generate a similar antioxidant response as trained swimmer mice when facing an episode of acute stress.

Key words: Ageing. Oxidation. Stress.

Effects of resistance training on body composition and muscle strength in older women

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Introduction: The purpose of this study was to compare the effects of low intensity resistance training (LRT) and high intensity resistance training (HRT) on body composition and muscle strength in twenty-eight active postmenopausal older women.
Methods: Participants aged 59-75 years (mean age 66,9 ± 4,69 yr., mean height 152,7 ± 5,85 cm, mean weight 63,2 ± 7,44, postmenopausal years 19,1 ± 7,2), were matched on initial total bone mineral density and assigned on the ABBA procedure. The LRT group (n=9) performed the training at an intensity of 60% of one repetition maximum (1RM), and the HRT group (n=7) at 80% of 1RM. Both groups performed 2 sets per exercise, 8 exercises per session, twice a week, during 7 months. The control group (n=12) maintained calisthenics exercise for 2 sessions a week. Pre and post tests of 1RM were conducted at progressive resistance equipment, muscle strength was measured in a Cybex II isokinetic dynamometer, namely, peak torque of the non-dominant knee and elbow extensors and flexors at $60^{o}.s^{-1}$. Measurements of lean body mass (LBM) and fat mass (FM) were made by dual-energy X-ray absorptiometry (DXA, model QDR-1500, Hologic Inc., Waltman, MA).
Results: The results are expressed (Table 1) by the determinations of the regression coefficients for the initial value of each variable, the partial regression coefficient, determination coefficient for the initial value and incremental determination coefficient for the years after-menopause and group, using as dependents variables the final values of the weight, lean body mass (LBM), percentage of the fat mass (FM%), isocinetic force and isotonic force.
Conclusions: Although there were no significantly statistics results, the data indicate substantial increases in strength of knee extension and elbow flexion in the HRT group, and on the arms LBM in the LRT group. These results call for further research to determine the optimal training prescription for obtaining strength gains in older women.

Table 1. Brito J

	Initial value		Years After-menopause		Group control/ exercise	
	ß	R^2 (%)	ß	iR^2(%)	ß	iR^2(%)
Weight (g)	0,961*	92,3*	-0,014	1,7*	0,043	0,2
LBM (g)						
Total	0,949*	90,1*	-0,041	0,2	0,005	0,0
Arms	0,870*	75,5*	-0,044	0,2	-0,159	2,5
Legs	0,916*	83,9*	-0,049	0,2	-0,023	0,1
FM (%)						
Arms	0,923*	81,1*	-0,013	0,0	0,115	1,3
Legs	0,948*	89,9*	0,043	0,2	0,014	0,0
Isocinetic Force						
Peak torque (Nm)						
Knee Ext.	0,816*	66,6*	0,027	0,1	0,231	4,5
Elbow Ext.	0,670*	44,9*	0,324*	9,6*	0,043	0,1
Isotonic Force						
1RM (Kg)						
Leg Ext.	-0,061	0,4	-0,062	0,4	0,143	1,9
Elbow Flex.	0,062	0,4	-0,077	0,6	0,227	4,9

Key words: Postmenopausal women. Strength training. Muscle strength. Lean body mass. Fat mass.

IMAGING DIAGNOSTICS IN SPORTS MEDICINE-I

LANGUAGE: SPANISH

Technique for gadolinium injection trough a posterior approach in shoulder arthro-MRI

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Introduction: Shoulder arthro- MRI is a very useful diagnostic study for some sports relate to shoulder conditions that could be performed through posterior and anterior approaches. It must be done following a very strict technique, and very few diagnostic centers perform it routinely.
Material and Methods: In our center, we have performed more than 400 shoulder arthro-MRIs through a posterior approach, following the same anatomical references used for shoulder arthroscopy without noticeable complications. The method and references are shown to facilitate radiologists, sports medicine specialists and orthopaedics surgeons the intrarticular inyection of gadolinium into the shoulder with minimum patient's discomfort.
Conclusions: When properly perfomed, posterior approach of the shoulder joint allows the intraarticular gadolinium inyection in an easy and reproductible way without the use of sophisticate needle-guidance systems.

Key words: Shoulder arthro-MRI. Technique. Shoulder joint injection.

Usefulness of the ultrasonography in diagnosis, control and follow-up of injuries that affect cortical bone

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Introduction: Muscle-skeletal ultrasonography has an undoubted usefulness in the diagnosis of the injuries that affect connective tissues of the locomotor system (tendon, muscle, ligament).
Material and methods: In our daily clinical practice, the physical examination is well complemented by a muscle skeletal ultrasounds test.
Results and conclusions: This can be seen in the following pathologies:
- Booting bone, mostly in small joints.
- Rib fractures.
- Altered tendinous insertions, chronic or acute.
- Osteosynthesis material location or displacement.
- Reactions of stress bone (periosteal reactiveness)
- Periarticular calcifications.
- Consolidation bone calluses monitoring.
- Articular bone spurs.

Key words: Ultrasonography. Bone lesion. Muscle-skeletal.

Utility of the 3 dimensions ultrasound scan in the study of the tendons ruptures

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Introduction: To improve the precision in the diagnosis of the tendon injuries in the sport, new technological applications of the ultrasound are in use like it is the study in 3 dimensions (3D). One distinguishes in this study the differences obtained in the visualization of the partial tendon ruptures from the quadriceps, with two ultrasonic technologies like it is the ultrasound scan in mode B (2 dimensions) and the three-dimensional study (3D), describing the differences in the images obtained with each of these types.
Materials and methods: There uses an equipment GE, model Logiq e, that is a compact device that includes technological innovations in a portable model as the