a significant decrease in leukocytes number (6.08 ± 1.55mil/mm3 vs 4.68 ± 1.09mil/mm3; p = 0.029) was observed in CG and a significant decrease in IGF1 (344.03 ± 90.83ng/ml vs. 291.60 ± 58.29ng/ml; p = 0.049) resulted in TRFG. A significant decrease in body fat percentage (14.03 ± 1.54% vs. 8.53 ± 1.21% p =<0.0001) was also evidenced in the TRFG
Conclusions: The TRF followed for 30 days had no effect on endurance performance in high-level cyclists, but resulted in a significant decrease in body fat and some changes in blood parameters of potential interest.

A26
SARCOPENIA IN RENAL CRONIC DISEASE IN CONSERVATIVE THERAPY

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Introduction: Sarcopenia is a risk factor associated with chronic kidney disease (CDK). The aim of the following study was to evaluate muscle mass and its function in patients with MRC in conservative therapy.
Methods: 94 patients (F = 32, M = 62) were enrolled. The nutritional status has been evaluated through anthropometric measurements, biochemical analysis and bioimpedance exam. The glomerular filtrate (eGFR) was estimated according to the MDRD (Modification Diet Renal Disease) equation. The contractile force of the hand was evaluated using the Lafayette dynamometer (HG). Presarcopenia and sarcopenia were defined according to the EWGSOP criteria.
Results: The prevalence of presarcopenia was observed in 4.7% (M = 7.3%, F = 0) with an increase in advanced stages of MRC (1.2%, 1.2% and 2.4% in stages 1,3,4, respectively); while, sarcopenia was observed in 10.6% (M = 7.3%, F = 16.7%) without significant differences between the CDK stages. In addition, diabetic patients showed reduced muscle strength compared to non-diabetic patients (HGdx: 24.9 ± 8.8Kg vs 28.1 ± 10Kg, p < 0.05). The HG values are directly related to the eGFR (p < 0.05).
Conclusions: Our data suggest that presarcopenia is more common in men, while sarcopenia in women. The presence of presarcopenia in early stages of CDK and the reduction of muscle function associated with the decline of glomerular filtrate, indicate that during this pathology there is a rapid change of the body composition with progressive loss of muscle strength.

A27
CORRECTION OF A PATIENT'S MICRONUTRIENT STATUS PRIOR TO SLEEVE GASTRECTOMY COULD BE USEFUL IN PREVENTING EARLY POSTOPERATIVE MICRONUTRIENT DEFICIENCIES: A RETROSPECTIVE COMPARATIVE STUDY

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Introduction: Micronutrient deficiencies (MD) after sleeve gastrectomy (SG) are frequent. Obese patients often show MD before SG. Aim of this study was to assess whether the correction of MD prior to SG plays a role in preventing early postoperative MD.
Methods: Eighty patients (58 females, 22 males) who underwent SG were retrospectively evaluated. Patients were divided according to whether (Group A, n = 42, 30 females, 12 males) or not (Group B, n = 38, 28 females, 10 males) they received preoperative MD correction. Micronutrient status were assessed preoperatively and at 3- and 12-months post-SG in both groups. After SG, all patients followed the same postoperative diet and micronutrient supplementation, and their nutrient intake was evaluated.
Results: Before SG, patients without micronutrient correction were mostly deficient in vitamin B12 (10,5%, 3 females, 1 male), folic acid (15,8%, 5 females, 1 male), vitamin D (39,5%, 10 females, 5 males), iron (26,3%, 8 females, 2 males), and zinc (7,9%, 2 females, 1 male). Patients who had preoperative micronutrient correction had no deficiencies. At 3- and 12-months post-SG, no patient from the preoperative micronutrient correction group developed new deficiencies, whereas all patients who had MD in one or more micronutrients continued to be deficient, despite the supplementation. No differences in estimated nutrient intake were observed in both groups, demonstrating that MD seen in the early post-SG period are mostly due to preexisting deficiencies and not caused by the surgery.
Conclusion: Pre-SG identification and correction of MD could be helpful in preventing early postoperative MD.

A28
RAW BIOELECTRICAL IMPEDANCE (BIA) VARIABLES AND PHYSICAL FITNESS IN YOUNG ADULTS

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Background: Body composition and physical fitness (PhF) are components of nutritional status closely related to each other, which can be assessed respectively using PF tests and bioelectrical impedance analysis (BIA). In particular, raw BIA variables should be evaluated because of their potential relationships with muscle strength. Of note, bioimpedance (BI) index is related to fat-free mass (FFM), while impedance ratios (IR) and phase angle (PhA) are indexes of body cell mass and extracellular/intracellular water ratio. The objective of the study was to evaluate the relationships between PhF and raw BIA variables in healthy young adults.
Methods: Ninety-seven subjects participated in the study: 48 males (età 23.2 ± 24 yrs, body mass index-BMI 25.3 ± 3,1 kg/m^2) and 49 females (age 24,5 ± 2,4 yrs, BMI 23.2 ± 3,4 kg/m^2) . With respect to BIA, impedance (Z) and PhA were measured every 25 kHz in the range 5−300 kHz (HUMAN IM-TOUCH, DS Medica, Milano). BI indexes were calculated as stature^2/Z at 5−300 kHz, while IRs as ratios between Z at 50−300 kHz, and Z at 5 kHz. The PhF tests performed were hangrip strength (HGS), long jump (LJ) and gait speed (GS).
Results: HGS, SJ and LJ were more strictly correlated with BI index, IR and PhA than with age, stature, weight and BMI. Higher correlation coefficients were observed when BI index was calculated at ≥100 kHz. The association with PhF was similar for different IRs and reached a maximum among PhAs for that measured at 50 kHz. GS was associated with IR and PhA, but not with BI indexes, age, stature, weight and BMI. Multiple regression analysis showed that BI indexes plus IR or PhA were significant predictors of PhF (often with high R^2).
Conclusions: The results of the study show that in young adults physical fitness is consistently related to raw BIA varia-bles. These relationships vary depending on the measurement frequency selected.

A29
NUTRITIONAL CARE IN THE REHABILITATION PROCESS OF SEVERE BRAIN INJURIES: PRELIMINARY RESULTS

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Introduction: The latest ESPEN Neurological Guidelines recommend the presence in the Severe Brain Injuries (SBI) multidisciplinary rehabilitation team of a nutrition specialist who can elaborate a personalized nutritional plan and monitor it over time. The aim of this study is to evaluate the effects that an experienced Nutrition Team can have on the rehabilitation process of the patient with SBI.
Methods: We enrolled 50 patients admitted to the SBI ward of our hospital. Data regarding Malnutrition Universal Screening Tool (MUST) and Disability Rating Scale (DRS) scores, number and grade (EDUAP Guidelines) of pressure sores (PS), and biochemical markers of malnutrition were collected at admission and discharge.
Results: Compared to admission, at discharge patients (mean age 59 years, 34% women) had lower MUST and DRS scores (MUST: 2.1 ± 1.0 vs. 1.3 ± 1.2, p < 0.001; DRS: 20.9 ± 4.9 vs. 16.3 ± 7.8, p = 0.003),

increased levels of Albumin, Transferrin and Lymphocytes (Alb: 3.0 ± 0.6 vs. 3.2 ± 0.5 g/dL, $p < 0.001$; Transf: 176.6 ± 44.0 vs. 202.7 ± 53.4 mg/dL, $p < 0.001$; Lynph: 1.8 ± 0.8 vs. 2.1 ± 1.0 x10^3/μL, $p = 0.008$) and reduced number (2.4 ± 1.4 vs. 0.5 ± 1.0, $p < 0.001$) and degree (2.2 ± 0.5 vs. 0.5 ± 1.0, $p < 0.001$) of PS. During hospitalization, the percentage of patients receiving enteral nutrition decreased (83% vs. 51%, $p = 0.045$), whereas that of patients receiving oral feeding increased (14% vs. 53%, $p = 0.023$).
Conclusion: The preliminary results of this study are consistent with the latest ESPEN Neurological Guidelines, highlighting the importance of a correct and timely nutritional intervention carried out by an experienced and qualified Nutrition Team in the improvement of the nutritional state. This intervention, as part of a multidisciplinary approach to the patient with SBI, could lead to the optimization of the patient's rehabilitation potential, aimed at improving the outcome both from a neurological (reduced DRS) and physical (reduced number and severity of PS) point of view.

A30
THE ASSESSMENT OF NUTRITION STATUS WITH THE MINI NUTRITIONAL ASSESSMENT (MNA) IN PATIENTS WITH CHRONIC-OSTRUCTIVE PULMUNARY DISEASE (COPD)

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Introduction: Chronic obstructive pulmonary disease (COPD) is a chronic disease with a high prevalence of malnutrition. There are a few data in the literature on the use of Mini Nutritional Assessment (MNA) in COPD patients. MNA is a widely used tool for assessing nutritional status in the elderly. Aim of the study is to identify the prevalence of malnutrition in COPD patients using MNA and evaluate the relationships between MNA and body composition (bioelectrical impedance analysis = BIA).
Methods: Two hundred and one patients with COPD were recruited for the study (137 M/64 F, age 72.4 ± 6.3 yrs, weight 65.4 ± 15.7 kg, body mass index 25.4 ± 5.8 kg/m^2). BIA was performed with a HUMAN IM-TOUCH device (DS Medica, Milan); in addition to estimating free-fat mass (FFM), impedance ratio (IR = impedance-Z at 250 kHz/Z at 5 kHZ) and phase angle (PhA at 50 kHZ) were considered as indi-ces of body cell mass and extracellular water (quality of FFM). The diagnosis of "normal nutritional status", "risk of malnutrition" or "malnutrition" were made using the MNA questionnaire.
Results: Patients at risk of malnutrition were 65.6% of F and 44.5% of M, and those malnourished 17.2% and 20.4%, respectively, with higher percentages in the advanced stages of disease or for a worse prognosis. The prevalence of underweight was 74.4% for malnourished patients vs. 7% for those with normal nutritional status. FFM and IR were inversely correlated, and PhA directly correlated, with the MNA score. Compared with patients with normal nutritional status, IR and PhA were significantly lower in patients with malnutrition but not those at risk of malnutrition (vs. normal nutritional status).
Conclusions: In patients with COPD, MNA shows a high prevalence of patients with malnutrition or at risk of mal-nutrition, especially in the advanced stages of the disease or for a worse prognosis. In addition, malnourished patients showed significant changes in IR and PhA (BIA variables that are indexes of FFM quality).

A31
IMPACT OF MEDITERRANEAN VS VEGETARIAN DIETS ON GUT MICROBIOTA AND SHORT CHAIN FATTY ACIDS: THE CARDIVEG STUDY

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Introduction: There is a growing interest in understanding how diet can modulate the intestinal microbiota, including its possible associations with diseases. The aim of the present project is to compare in a group of patients in primary prevention for cardiovascular disease (CV) the effects of Mediterranean (MD) and Vegetarian (VD) dietary patterns on the composition of the gut microbiota and on the production of short-chain fatty acids (SCFA).
Methods: Twenty-three clinically healthy subjects (16F; mean age: 58.6 years), enrolled in the CARDIVEG study, were randomly assigned to isocaloric MD or VD diets lasting 3-months each and then crossed. Anthropometric measurements, body composition, blood and fecal samples were obtained from each participant at the beginning and at the end of each intervention phase.
Results: At the end of the 3-month intervention phase, a total of 19 taxa reported a statistically significant variation ($p < 0.05$) due to diet: the relative abundance of 7 groups changed after MD and 12 groups after VD. No statistically significant differences were reported in the production of SCFA for MD, while a reduction in propionic acid (−23.7%) and an increase of both isobutyric (45%) and isovaleric (47.5%) acids emerged for VD. Correlation analyses showed a potential relationship − modulated by the 2 diets − between changes of taxa and the variations of clinical and biochemical parameters including the anthropometric parameters, the metabolic variables and the inflammatory parameters. In particular, a greater number of significant correlations for VD with respect to MD has been reported.
Conclusions: A 3-months period of dietary intervention with MD and VD was able to determine some effects on the gut microbiota. VD appears to have a greater impact as in the composition of the gut microbiota as in the production of SCFA and in correlations with changes in clinical and biochemical parameters.

A32
NON-LINEAR (J-SHAPED) ASSOCIATION OF ALCOHOL INTAKE WITH TOTAL MORTALITY: RESULTS FROM THE MORGAM PROJECT

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