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INTELLETTUAL OUTPUT 3

CHALLENGE FOR LEARNERS

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ITALY







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Hello!! This is Super Granny and Super Grandpa!!

Today we would like to talk about food and physical activity, the most important aspects for being in good health!!

Follow us and you will find out useful and interesting information...let's go!!!









Introduction

"A healthy beggar is happier than an ailing king" "Nine-tenths of our happiness depends upon health alone"

A. Schopenhauer

Health is an essential condition for a happy life!

The following rule is always valid: if someone is healthy, he will be happy, whether he/she is young or old!

A correct diet has a positive influence on health and, therefore, on the quality of life. This is true in particular for the elderly, whose nutrition needs are linked to age.

At the same time, physical exercise represents a second fundamental factor to take into consideration for the health of the elderly. Not only does the lack of exercise affect the body's functional abilities, it also affects health in general.

Therefore, the fundamental topics to be addressed in order to deal with the health of the elderly are:

- 1. Health and nutrition
- 2. Health and physical activity

The present document is addressed to people over 65 and aims at providing information and useful advice to face a very important phase of life in good health.

Health problems and ailments are not just the result of ageing, but also of the **bad health and nutrition habits of an entire life**: correcting those habits is **fundamental for facing and preventing** the **diseases** affecting old people.







Topic 1 Health and Nutrition

What are the essential elements of a healthy diet?







WATER

The natural daily needs of *water* is 30 ml/Kg of body weight or 1 ml/kcal absorbed.

Therefore, **1,5** I of water should be absorbed **through beverages**, and the remaining **half liter through food**.

In old people, the risk of dehydration stems from the reduced stimulus of thirst and the reduced kidney capacity to concentrate urine.

Particular attention has to be paid with respect to sick people in order to guarantee a proper water balance between what is ingested and what is eliminated.

Consume food rich of water (fruits, vegetables) and drink (infusions, tea, juices etc.)...even if not thirsty!!!!!









MACRONUTRIENTS

Among macronutrients, *proteins* can have different origins: animal-based (meat, fish, eggs, milk, cheese) or plant-based (legumes, such as lentils, beans, peas, fava beans, soy).

The protein need is of **1,1 g/Kg per day**, slightly higher than the protein need of adults because in old people there is lesser use of proteins due to digestive and metabolic problems. Protracted reduction in protein assimilation can lead to tissue wearing, anemia, and a general reduction in the effectiveness of the immune system.









Lipids, generally known as **fats** (coming from types of food such as oil, lard, eggs, butter, cheese, amrgarine) represent an important reserve energy source, as 1 g generates 9 Kcal. Lipids should cover 25% of the daily need of calories. Lipids of **plant origin** are to be preferred, especially for old people.

Carbohydrates provide 4Kcal/g. They represent the most immediate energy source and they can be divided into simple (sugar, honey, jam) and complex carbohydrates (bread, pasta, rice, potatoes). Carbohydrates provide 50/60% circa of the daily calories need. It is preferable to opt for complex carbohydrates and reduce the simple ones.

MICRONUTRIENTS

Among micronutrients, *vitamins* are fundamental as they cannot be produced by the body. A proper intake of vit B 6, B 12, folic acid, vit D is very important. Ageing does not entail higher vitamin needs: it is however necessary to avoid some diet mistakes (such as overcooking, use of preserved food) common for people over 65 and accentuated by the alteration of digestive and metabolic functions.









Minerals (sodium,, potassium, magnesium, calcium) should be ceaselessly reintegrated in the organism, since they are continuously eliminated through sweat, urine and faeces.

Calcium is always to be kept in check (especially in women) since it causes osteoporosis, while potassium can lead to the reduction of the muscle tone and cardiac rhythm. In addition, is used in high quantity, sodium constitutes a risk factor for hypertension.



FIBERS

Fibers are substances without energy or nutririon value. They are important to regulate such body functions as metabolism and intestinal regularity.

Fibers are instrumental in avoiding constipation, which is facilitated by a sedentary lifestyle and the reduced intake of liquids. It is therefore important to eat fruits, vegetables, legumes and whole cereals.









It is recommended to eat: pears, dried plumes, artichokes, spinach, beans, aubergines







YOUR CORRECT DAILY DIET

Nutrients' optimal daily distribution:

NUTRIENTS	DAILY NEED IN %
PROTEINS	15%
FATS	25%
CARBOHYDRATS	60%

Therefore, the diet will include:

- Milk and dairy products;
- Lean meat, eggs and legumes;
- extra virgin oliv oil;
- fresh seasonal fruits and vegetables.
- •

It is recommendable that the daily diet be divided in **5 meals**!

Including a half-morning and half-afternoon snack with:















Optimal daily energy distribution over 5 meals:

MEAL	DAILY NEED IN %
Breakfats	15%
Half-morning snack	5%
Lunch	40%
Tea break	5%
Dinner	35%









Topic 2 WELLBEING AND PHYSICAL ACTIVITY

Daily physical activity is the real secret to wellbeing, since it:

- improves cardiovascular efficiency
- controls body weight
- improves muscle and bone efficiency
- reduces depression and limits insomnia
- keeps glycaemia under control
- reduces the risk of cancer

A body not used to physical activity becomes unable to withstand even minimum efforts; lack of movement deteriorates the functionality of many organs and apparatus, favouring the insurgence of different diseases, such as heart attack, stroke, arterial hypertension, diabetes, osteoporosis.

Constant physical activity has positive effects on many organs, besides having also applications treatment of some chronic diseases. On the basis of the type of pathology, there are different kinds of more or less appropriate workouts. These are selected according to: intensity, duration, frequency, and methods of execution.

The two main groups of physical activity are: aerobic (duration) e anaerobic (power).

Aerobic activities are prolonged workout exercises of light/moderate intensity, stimulating circulation and respiration.

Anaerobic activities are workout exercises characterised by short duration and high intensity, stimulating muscles and the skeleton.

Most of the most common physical activities have mixed characteristics.

In 2010, the World Health Organisation (WHO) published the new guidelines on physical activity for health and wellbeing. The document indicates the frequency, duration, intensity, type and quantity of the activity needed to prevent chronic diseases.

In people over 65, physical activity takes place in leisure or occupational activities, bricolage, active movements (by foot, using stairs, by bike), amateur sports, and physical workout programmes.

The WHO recommends:

- **150 minutes/week** of moderate aerobic activity or **75 minutes** of intense or similar activities, in sessions of at least 10 min. at a time.
- Workout drills aimed at strengthening the main muscle groups at least twice a week.
- Those with motor problems are recommended to perform drills for **improving balance** at least three times per week.







• Those who cannot reach the recommended levels are advised to be as active as possible according to each physical conditions.

Good Practices:

The WHO's "Global Recommendations on Physical Activity for Health" pointed out two countries that appropriately promote and encourage physical activity for the elderly: Australia and Canada.

<u>Australia</u>:

- Think of physical movement as an opportunity, nota as an inconvenience.
- Be active everyday anyway you can.
- Put together at least 30 minutes of moderate physical activity, preferably every day.
- It is important to use protection devices to maximise security and reduce the risk of injuries during physical activity.

<u>Canada</u>:

- Integrate physical activity in your daily routine.
- Carry out the activities you are already doing, but more frequently.
- Go everywhere on foot anytime you can.
- Start slowly by stretching.
- Find the activities you like.







HOW TO MEASURE PHYSICAL ACTIVITY?

A simple evaluation of the intensity of the physical effort is made on the basis of the MET (metabolic equivalent). 1 MET is the rhythm of energy consumption of the human body at rest. It corresponds to a consumption of 3.5 ml of O2 per kg per minute (1 Kcal/kg/h circa):

- Light intensity activities request an effort 1 to 3 times higher than rest = 1,0 2,9 MET
- Moderate intensity activities are conducted at a level 3 to 6 times higher than rest, namely = 3,0 - 5,9 MET
- High intensity activities request an effort more than 6 times higher than rest = / > 6 MET

Other methods of measuring are: the pedometer (portable device sensiitive to accelleration that can be worn all day or for determined walking sessions) or cardiac frequency (it can be tracked by portable devices or counting heartbeats on the wrist; the max CF is about 220)

There are simple methods to self-assess the intensity of physical activity, such as:

Walk and talk test.

How does it work?

If while walking

- you can sing: the effort is too light and you need to speed up;
- you can speak, but cannot sing: the effort is of moderate intensity;
- you cannot speak: the effort is too intense and you need to slow down.







Which everyday activities can be considered of slow or high intensity?

Here are some examples:

low	walking slowly
	washing dishes, ironing, dusting
	doing do-it-yourself, grocery shopping, doing manual work
	watering the garden
	playing bocce, pool, bowling, ping pong, dancing
moderate	walking quickly
	washing the car or windows
	using the vacuum cleaner
	gardening, sweeping leaves
	doing aerobics
	biking or swimming, skiing, playing with a frisbee, sailing boating, playing badminton, playing golf
intense	walking in the mountains
	spading, moving furniture
	jogging, swimming hard, rope jumping, playing football, playing volleyball (and most of team sports with a ball), playing fighting sports, playing tennis, squash, hiking







Examples of workout exercises for the elderly



Exercise 1: Nutrition



BREAKFAST

- Cows' milk or plant-based milk (soy, almonds, oat , rice)
- Or cows' or soy's yogurt
- Coffee or barley coffee or tea or cereal coffee
- Toasted bread slices or biscuits (better if whole) or bread (better if toasted) (or corn flakes)
- Dried fruits (up to 10-15 g of dried fruits: walnuts, almonds, pistachios, pine nuts)

It is important to know that:

- Plant-based milk is suggested in case of lactose intolerance
- Coffee: in moderate quantities it has several properties, such as anti-diabetes, hepatoprotective, stimulating gastrointestinal functionality, neuro-protective (M.A M.P), anticancer (if tolerated, and if there are no CV pathologies and if no use of drugs active on the nervous system is involved)







- Tea: a constant consumption reduces the insurgence of strokes, cerebrovascular diseases, type-2 diabetes, cardiovascular diseases, cancer and kidney-related ailments.
- Dried fruits: rich in vitamins, minerals, essential fats, and have positive effects on feeling full, and reduce the risk of cardiovascular diseases, cancer, etc. (provided no allergies are involved)

Note: it is advisable to add a spoonful of wheat germ (rich of vitamins, proteins, essential fats). Limiting white sugar is also recommended: it would be better to use honey molasses/fructose.

LUNCH

- Pasta or rice (possibly whole)
- Other whole grains: barley, hulled wheat, oat, rye, buckwheat, quinoa, millet, amaranth)
- Bread (better if whole and toasted). Unleavened bread if intolerant to yeast.
- Animal proteins (meat, fish, eggs, cheese) or plant-based proteins (legumes)
- Raw vegetables (preferably at the beginning of the meal) possibly with chunks of fruits
- Cooked vegetables
- Plant-based fats (extra-virgin olive oil, corn, sunflower, flaxseed oil) or sesame seeds.

It is important to know that:

- Whole grains: high quantity of proteins minerals, fibers
- Grain cereals: oat, rye, buckwheat, quinoa, millet, amaranth. Used in broths and vegetable soups, they have a high protein level (allowing the reduction in the use of animal proteins).
- Animal proteins: it is recommended to keep the consumption of red meat, sliced meat, egs and cheese under control.
- Plant-based proteins: legumes, and also soy and others (tofu, tempeh).

DINNER

- Pasta or bread (preferably whole) in reduced quantity
- Other grain cereals
- Animal or plant-based proteins
- Raw/cooked vegetables

After dinner: possibly 1 glass of milk or hot infusion (to aid sleep: lemon balm, lavender, camomile)

SNACKS

It is preferable that the daily diet be divided in 5 meals, with the insertion at half-morning and half-afternoon of a snack containing:

- fresh fruits (or fruits juices)
- tea or infusion with toasted sliced bread
- yogurt (milk or di soy-based)







Exercise 2: Physical Activity – Improving Circulation and Strengthening Articulations

NOTES:

- Equipment: chair, tennis ball
- 10 exercises (1 round)
- 30" workout 10" pause
- From 40" to 60" pause between rounds
- 2/3 rounds every other day

EXERCISES:

- 1. 10 CIRCLINGS WITH THE BALL UNDER YOUR RIGHT FOOT
- 2. 10 CIRCLINGS WITH THE BALL UNDER YOUR LEFT FOOT
- 3. 10 SLIDINGS BACK AND FORTH WITH THE BALL UNDER YOUR RIGHT FOOT
- 4. 10 SLIDINGS BACK AND FORTH WITH THE BALL UNDER YOUR LEFT FOOT
- 5. 10 LEG EXTENSIONS WITH THE BALL ON YOUR FEET
- 6. 10 CONTROLLED INTERNAL AND EXTERNAL FOREARM ROTATIONS WITH YOUR RIGHT ARM FLEXED AT 90 DEGREES
- 7. 10 CONTROLLED INTERNAL AND EXTERNAL FOREARM ROTATIONS WITH YOUR LEFT ARM FLEXED AT 90 DEGREES
- 8. 10 CIRCLINGS WITH THE BALL IN THE PALM OF YOUR RIGHT HAND WITH ALTERNATE ROTATION
- 9. 10 CIRCLINGS WITH THE BALL IN THE PALM OF YOUR LEFT HAND WITH ALTERNATE ROTATION
- 10. 110 BALL THROWS FROM ONE HAND TO THE OTHER
- 11. 110 CONTROLLED BALL FORWARD PASSES FROM THE RIGHT TO THE LEFT HAND
- 12. 110 CONTROLLED BALL PASSES BEHIND THE BACK FROM THE RIGHT TO THE LEFT HAND
- 13. 10 RIGHT EXTENDED ARM FRONT LIFTS
- 14. 10 LEFT EXTENDED ARM FRONT LIFTS
- 15. 10 LIGHT ALTERNATE FEET LIFTS WITH THE BALL BETWEEN KNEES.







Exercise 3: Physical Activity – Improving posture and

balance

- A. Upright position with your hand against a chair
 - Place the other hand on the upper side of your hip and left your leg sideways
 - Make sure your hip is still.
 - Repeat 10 times.
 - Repeat the drill with your other leg.
 - If possible, add 1-2kg weight to your ankle and make sure you can lift it with no particular difficulty.

Advantages: It reinforces your hips and improves your balance.









- B. In prone position with arms along your hips.
 - Place some towels under your forehead and shoulders, and a towel or pillow under your abdomen.
 - Slightly bend your right leg and lift your thigh from the floor.
 - Keep your foot relaxed.
 - Repeat 10 times per side.
 - If possible, add some weight to your ankle
 - If adding weight causes back pain, try and add another pillow under your abdomen.

Advantages: it reinforces your lower back and gluteus muscles. It stretches your flexor muscles and the front part of your thighs.









- C. Upright position holding your balance with a chair without flexing your chest and knees.
 - Raise on the tip of your feet and get back on your heels.
 - Repeat 10 times.
 - Raise on the tip of your feet staying firm on your heels; get back on the tip of your feet
 - Repeat once a day.

Advantages: It reinforces the lower part of your legs and helps improving your balance.









- D. Lean with your back against a wall.
 - Keep your feet leveled with your shoulders.
 - Lean with your gluteus, palms and shoulders against the wall.
 - Move up and down the wall bending your knees.
 - Keep your back, shoulders and abdomen flat against the wall.
 - Repeat 10 times.

Advantages: it strengthens your thighs, abdomen and back, improving the posture of your back.









Integrated workshop– Nordic walking and healthy snack



Nordic walking is a walking technique, which integrates the use of walking sticks in the natural walking way, taking inspiration from the classic cross country skiing's technique.

Nordic walking can be practiced everywhere, in city parks, in the mountains, on seashores, in woods trails, etc. It is a great way to practice sport close to nature.

The use of sticks while walking implies a series both physical and mental benefits, which are determining the current success of this sport.

Indeed, nordic walking has a significant effect favouring the use of nearly the 85% of musculature, thus contributing the the consumption of 40% circa more than classic walking. All this without putting on an excessive load on such articulations as hips and knees. As a result, nordic walking is generally recommended for those people with articulations problems and for those in the process of recovering from traumas and overweight people. It is therefore recommended also for old people.

The advantages of nordic walking are:







- Greater effectiveness than classic walking thanks to the use of sticks, which allow for the training of upper body parts.
- Load reduction on articulations (ankles, knees, vertebral column), which makes nordic walking particularly suitable for those people recovering from traumas or suffering from articulations pathologies.
- Improvement of circulation and heart and lungs performances.
- Tension and contracture reduction in cervical and shoulders zones.
- Improvement in total body muscle vigour.
- Stress and emotional tension reduction thanks to physical movement and open air practice.

Nordic walking is designed as a sport to provide benefits for the whole body and mind, while enjoying the discovery of natural environments.

THE TECNIQUE

The movement is constituted by opposed pushes of arms and legs: left leg and right arm move alternatively to right leg and left arm.

Body posture needs to be upright and relaxed, similarly to that of the vertebral column: of the objectives of nordic walking is bringing this technique to everyday life in order to find the proper walking posture without sticks, constantly using abs and back muscles.

The technique involves leaning slightly forward without flexing your chest, keeping shoulders relaxed and making wide arm movements.

The arms are stretched as they sustain the shoulders' functional rotation, resulting in a significant muscle effort. The hands make straight back and forth movements, and the sticks are always close to the side of the body.

The length of the pace is determined by the possibility of rotating the hip in a balanced way. As a matter of fact, steps are neither long nor short, but appropriate to the extension of the movement, the thrust, and the morphology of the land where the sport is practiced.

The sticks do not change the way of walking. On the contrary, they are a tool helping making walking healthier and more dynamic. The sticks are kept tilted, the none stick is pushed back beyond your hip until you reach a good extension of the arm (sticks are designed to be an extension of the arms).

Here are some illustrations of how to perform the described movement:







THE WORKSHOP

You need:



- sticks
- comfortable snickers
- appropriate sport clothes
- gloves
- backpack with snacks
- map

Characteristics of the route:

- Level of difficulty: low
- Length 5,0 Km
- Environment: parks, beach, trails

STEP1: WARMING UP – 15 MINUTES

Before training, it is always recommendable to warm up.

The following are some warm up drills:

- Thighs: lift alternatively both legs bringing one knee at hip level.
- Calves: lift your heels without pushing on the sticks.
- Abductors: make your foot 'draw' a semi-circle laterally, while your raised foot goes beyond the pivot foot (as illustrated in the photo).
- Lower limbs: from the upright position, squat bending legs and thighs, making sure of not raising your heels from the ground; if need be, it is possible to slightly stretch apart your legs and move the tips of your shoes externally.
- Shoulders' back part: stretch your arms back keeping the sticks in hand.
- Upper body: 'draw' a semi-circle with the tip of the sticks from an upright position.
- Rower drill: simulating a rowing movement with the sticks left and right.











STEP2: WALKING – 45 minutes (2,5 Km)

Use the walking technique, being careful to:

- Keep straight your stare and not look at your feet in order for your cervical zone to stay upright and support the movement.
- Keep your shoulders relaxed and swing your arms.
- Keep your torso upright and relaxed.
- Lean slightly forward without bending your chest.
- Keep the sticks tilted (not vertically).

STEP2: SNACK BREAK - 30 minutes

Suggested food: fruits (already washed and peeled!!), fruits juices with low sugar levels, and fruits stock.

STEP3: WALKING (way back) – 45 minutes (2,5 Km)

STEP4: STRETCHING- 20 minutes

- Anterior thigh stretching: stretch your feet apart at the level of your hips. Use the sticks to keep balance and hold them both in one hand. Hold with your free hand the instep of one foot trying to bring the heel toward the gluteus.
- Posterior thigh stretchinga: stretch your feet apart at the level of your hips, then bring one leg forward at a time extending it and raising the tip of the foot, bending forward and keeping your back upright. piegarsi in avanti mantenendo la schiena diritta e cercando di portare i bastoncini verso la punta del piede.
- Calves stretching: divaricare i piedi alla larghezza delle anche, con i bastoncini in appoggio a terra allungare posteriormente l'arto inferiore e piegare il ginocchio dell'altro. Appoggiare il tacco a terra della gamba allungata, avendo l'accortezza di tenere il piede diritto, fino alla soglia di leggero bruciore percepito nel polpaccio
- Back muscles stretching: open wide your feet to the width of the hips, stretch your arms and place the sticks on the ground shoulder width apart by exerting pressure on poles with arms almost stretched. For greater effectiveness bend your head down towards the ground.







• Side body muscles stretching: stretch your feet apart slightly more than the breath of your hips, grab the sticks and extend them over your head and with your arms extended (as if stretching an elastic band). From this position, pivoting on your belly button and with your back upright, bend your chest both sides without rotating it.

Why don't we make exercise together?

That's how:









Conclusion

The ageing of population represents one of the most important current social phenomenon. Longer life expectations do not merely means a longer lifespan, but they involve the perspective of living a life in full autonomy.

In order for this to occur, it is necessary for people over 65 to be aware that 2 main factors influence their health:

- Nutrition
- Physical activity

This guideline represent the answer to the people's need to keep healthy following few simple rules in their daily routine:

- The main components of a healthy diet
- The daily energy need
- Recommended and not recommended food
- The subdivision of meals during the day
- The importance of physical activity
- The different types of physical activity
- How to measure physical activity
- Practical workout exercises

We made use of:

- LANGUAGE: direct and non-formal
- IMAGES: clear and explicative
- DATA: easy to interpret and understand
- WORKOUT DRILLS: easily replicable (even at home)







