

Tishk International University  
Faculty of Applied Science  
Nutrition and Dietetics Department  
Nutrition for Adolescents and the Elderly– 2<sup>nd</sup> Grade



## Nutrition and Lifestyle Diseases in Adulthoods





# Learning Outcomes

*By the end of this module, students should be able to:*

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Define lifestyle diseases and explain their relationship to nutrition.

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Identify major dietary risk factors for obesity, diabetes, cardiovascular disease, hypertension, cancer, and osteoporosis.

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Describe protective dietary patterns and lifestyle behaviors.

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Apply prevention messages to realistic older adult examples.

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Lifestyle disease prevention is not about a single superfood. It is about an overall pattern that is practical, affordable, culturally acceptable, and repeated over time.



# Nutrition and Lifestyle Diseases

*How daily diet and behavior shape chronic disease risk across the life course*

Lifestyle diseases develop slowly and are strongly influenced by repeated daily choices.

Diet quality, physical activity, sleep, stress, tobacco, and alcohol interact with genetics and environment.

Prevention is usually easier than reversal, especially in later life.





# What Are Lifestyle Diseases?

*Also called noncommunicable diseases, when they are chronic and not passed person-to-person*

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## Common examples:

obesity, type 2 diabetes, hypertension, coronary heart disease, stroke, some cancers, fatty liver disease, and osteoporosis.

They share risk factors: unhealthy diet, physical inactivity, tobacco exposure, harmful alcohol use, poor sleep, and chronic stress.

They often cluster together: abdominal obesity, insulin resistance, high blood pressure, and abnormal blood lipids.

Older adults may have several conditions at the same time, so nutrition advice must be individualized.

Risk factors cluster. One person may have hypertension, diabetes, and high cholesterol, so one dietary plan should address all of them without creating malnutrition.



# Nutrition Pathways to Disease

*How food patterns influence physiology*

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Excess energy intake promotes weight gain and visceral fat accumulation.

High refined carbohydrate and sugary drink intake can worsen insulin resistance and triglycerides.

High sodium intake increases blood pressure in salt-sensitive people.

Low fruit, vegetable, whole grain, and legume intake reduces fiber, potassium, magnesium, antioxidants, and phytochemicals.

High saturated fat and trans fat intake can worsen LDL cholesterol and cardiovascular risk.

Diet pattern -> body composition and metabolism -> blood pressure, glucose, lipids, inflammation -> disease risk and functional decline.



# Major Lifestyle Diseases Linked to Diet

*The same diet pattern can influence many outcomes*

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Obesity: excess calories, large portions, sugary drinks, frequent fried and ultra-processed foods.

Type 2 diabetes: weight gain, low fiber diets, sugary drinks, sedentary behavior, and insulin resistance.

Cardiovascular disease: high LDL, hypertension, inflammation, smoking, and low activity.

Cancer risk: influenced by body fatness, alcohol, low fiber intake, and low fruit/vegetable intake for some cancers.

Osteoporosis and frailty: low protein, calcium, vitamin D, and physical inactivity.

Why might an older adult be obese and still malnourished? Because calories can be high while protein, vitamins, minerals, and fiber are inadequate.

# Dietary Patterns: Harmful vs Protective

*Shift the whole pattern instead of focusing on isolated foods*

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## Risk-increasing pattern

- Large portions and frequent snacking without hunger.
- Sugary drinks, desserts, refined grains, and low fiber foods.
- Processed meats, fried foods, and high sodium convenience meals.
- Low intake of legumes, vegetables, fruits, nuts, fish, and whole grains.

## Protective pattern

- Mostly minimally processed foods prepared in simple ways.
- Vegetables, fruits, whole grains, legumes, nuts, seeds, and healthy oils.
- Adequate protein from fish, poultry, eggs, dairy, legumes, soy, or lean meats.
- Water as the main drink and mindful portion sizes.



# Lifestyle Behaviors Beyond Food

*Nutrition works best when combined with other habits*

## 1 **Move daily**

Aerobic activity supports heart health, glucose control, mood, and mobility. Strength exercise preserves muscle.

## 2 **Sleep well**

Poor sleep affects hunger hormones, insulin sensitivity, blood pressure, and decision-making.

## 3 **Avoid tobacco**

Smoking increases cardiovascular, cancer, respiratory, and bone risks.

## 4 **Limit alcohol**

Alcohol adds calories, can raise blood pressure, interacts with medicines, and increases fall risk.

## 5 **Manage stress**

Chronic stress can worsen eating patterns, sleep, inflammation, and blood pressure.



# Prevention Across the Life Course

*Disease risk accumulates, but benefit can still occur later in life*

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**Early adulthood:** build healthy habits and prevent excess weight gain.

**Middle age:** screen for blood pressure, glucose, lipids, waist circumference, and diet quality.

**Older age:** preserve muscle, bone, cognition, hydration, and independence while controlling disease.

**Even small changes can matter:** replacing sugary drinks with water, adding vegetables, reducing salt, and walking daily.

**Prevention** includes primary, secondary, and tertiary prevention.

**It is never too late for benefit, but goals change:** in elderly adults, preserve function and prevent complications, not just improve lab numbers.

# Counseling Principles for Lifestyle Change

*Effective advice must be realistic and respectful*

**Assess first:** usual intake, income, cooking ability, chewing/swallowing, medications, culture, and goals.

**Use small specific goals:** one change at a time is easier to maintain.

**Avoid shame-based counseling;** it reduces trust and adherence.

Use family and caregivers when appropriate, especially for shopping and cooking support.

**Monitor outcomes:** weight trend, appetite, blood pressure, glucose, strength, and quality of life.

**Example SMART goal**

For the next two weeks, replace sweetened juice at breakfast with water or unsweetened tea at least five days per week.



# Aging and Physiological Changes

*Why the same diet can have different effects in older adults*

Aging changes body composition, metabolism, digestion, senses, immunity, and organ function.

These changes can reduce appetite while increasing vulnerability to deficiency.

Nutrition care must protect strength, function, hydration, cognition, and quality of life.





# Overview of Physiological Changes

*Aging affects multiple systems at once*

Area	What changes	Nutrition implication
Body composition	Less lean muscle, more fat mass, possible height loss	Lower energy needs but higher protein importance
Digestive system	Reduced saliva, slower motility, possible constipation	Texture changes, fiber and fluid planning may be needed
Taste and smell	Reduced taste, smell, and thirst sensation	Lower appetite and higher dehydration risk
Bone and muscle	Bone loss, sarcopenia, weaker balance	Protein, vitamin D, calcium, and activity become crucial
Immune system	Reduced immune response and inflammation changes	Food safety and micronutrient adequacy matter



# Body Composition and Energy Needs

*The elderly often need fewer calories, but not fewer nutrients*

Resting metabolic rate usually declines because lean muscle mass declines.

Physical activity may decrease because of pain, illness, disability, or social barriers.

Fat mass may increase even when body weight appears stable.

Unintentional weight loss is a warning sign and should not be ignored.

Nutrient density becomes essential: every bite should carry more nutrition.

Lower calorie needs do not mean low nutrition needs. In aging, nutrient density becomes more important.



# Sarcopenia and Frailty

*Loss of muscle is one of the most important nutrition-related aging changes*

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**Sarcopenia** means age-related loss of muscle mass, strength, and performance.

It increases risk of falls, fractures, disability, hospitalization, and loss of independence.

Contributors include inactivity, inadequate protein, inflammation, chronic disease, and low vitamin D.

Frailty includes weakness, slow walking, low activity, exhaustion, and weight loss.

Nutrition and resistance exercise are the core non-drug strategies.

Compare two meals: tea and bread vs eggs, yogurt, fruit, and whole grain bread. The second meal better supports muscle and micronutrient intake.



# Digestive Changes

*Chewing, swallowing, and gut motility can all affect intake*

Reduced saliva and dental problems can make dry or hard foods difficult to eat.

Dysphagia can increase choking and aspiration risk and requires professional assessment.

Slower gastric emptying may cause early fullness.

Constipation is common due to low fiber, low fluid, inactivity, and medications.

Some older adults have reduced absorption of vitamin B12 due to low stomach acid or medications.

Coughing during meals, wet voice, recurrent chest infections, or unexplained weight loss may suggest swallowing difficulty.



# Sensory Changes and Appetite

*Taste, smell, vision, and thirst influence eating behavior*

Taste and smell may decline, making food seem bland.

Medications can cause metallic taste, dry mouth, nausea, or reduced appetite.

Reduced vision can make shopping, cooking, and eating harder.

Thirst sensation becomes less reliable, increasing dehydration risk.

Loneliness and depression can reduce motivation to prepare or eat meals.

Enhance flavor without relying only on salt: herbs, spices, onions, garlic, citrus, vinegar, and attractive presentation.

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# Immune, Endocrine, and Metabolic Changes

*Aging changes disease vulnerability and recovery*

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**Immune function** becomes less robust, increasing infection risk and slowing recovery.

Chronic low-grade inflammation is associated with frailty and chronic disease.

Insulin sensitivity may decline, especially with inactivity and abdominal fat.

Kidney function may decline, affecting fluid balance and medication handling.

Healing requires adequate protein, energy, zinc, vitamin C, and overall diet quality.

After infection, surgery, or hospitalization, nutrition rehabilitation is often needed to regain muscle and function.



# Bone, Joint, and Mobility Changes

*Aging increases risk of osteoporosis, arthritis, and falls*

**Bone mineral density** decreases with age, especially after menopause.

Low calcium, vitamin D, protein, and inactivity worsen bone risk.

Arthritis pain may reduce shopping, cooking, and activity.

Poor balance, weak muscles, dehydration, and some medicines increase fall risk.

Nutrition, strength exercise, safe home design, and medication review support mobility.

Prevent fractures by combining nutrition, exercise, fall prevention, vision care, footwear, and medication review.



# Cognitive and Psychosocial Changes

*Nutrition is linked to independence and mental health*

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Memory decline can cause skipped meals, repeated meals, or unsafe food handling.

Dementia may cause appetite changes, wandering, swallowing problems, or refusal to eat.

Depression and grief can reduce appetite and self-care.

Social isolation is a strong risk factor for poor intake.

Caregivers may need simple meal systems, reminders, and safe food environments.

Use consistent meal times, visible snacks, finger foods when needed, and calm eating environments for cognitive impairment.



# Nutritional Requirements of the Elderly

*Meeting needs for energy, protein, micronutrients, water, and function*

Older adults need individualized plans based on health, weight, activity, appetite, and disease.

The priority is nutrient density, adequate protein, hydration, and food safety.

Requirements should support strength, immunity, cognition, bone health, and quality of life.





# Core Nutrition Goals

*The elderly diet should do more than prevent deficiency*

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Maintain healthy body weight and prevent unintentional weight loss.

Preserve muscle mass, strength, and mobility.

Support bone health and reduce fracture risk.

Maintain hydration, bowel function, and immune defense.

Control chronic diseases without making the diet too restrictive.

Prioritize function. Lab targets matter, but independence and quality of life are central outcomes in elderly nutrition.



# Energy Requirements

*Calorie needs often decline, but needs vary widely*

Energy needs depend on body size, muscle mass, activity level, illness, and weight goals.

Too many calories can worsen obesity, diabetes, fatty liver, and joint pain.

Too few calories can cause weight loss, fatigue, muscle loss, poor healing, and frailty.

Unintentional weight loss of 5 percent or more in one month or 10 percent in six months is concerning.

Use weight trend, appetite, function, and clinical condition to guide adjustments.

Do not rely on one weight. Look at trends, clothing fit, appetite, muscle strength, and recent illness.



# Protein Requirements

*Protein is central for muscle, immunity, and healing*

Older adults commonly need higher protein emphasis because muscle protein synthesis is less responsive with age.

Healthy older adults are often advised to aim around 1.0 to 1.2 g/kg/day; higher intakes may be used during illness or rehabilitation under clinical guidance.

Spread protein across meals to support muscle better than one large serving at dinner.

Good sources: eggs, fish, poultry, dairy, legumes, soy foods, nuts, seeds, and lean meats.

Kidney disease may require individualized protein advice from a clinician or dietitian.

Include a protein-rich food at every meal, not only at the evening meal.



# Carbohydrates and Fiber

*Choose carbohydrates that support glucose control and gut health*

Carbohydrates should mainly come from whole grains, fruits, vegetables, legumes, and dairy or fortified alternatives.

Fiber supports bowel regularity, satiety, cholesterol control, and blood glucose control.

Constipation prevention requires fiber plus fluid plus movement.

Limit sugary drinks, sweets, and refined grains, especially in diabetes and obesity.

For frail adults with poor appetite, overly bulky high-fiber diets may need careful adjustment.

Better carbohydrate choices: oats, brown rice, bulgur, beans, lentils, fruit, yogurt, and vegetables instead of sweet drinks and pastries.



# Fats and Heart Health

*Fat quality matters more than simply eating very low fat*

Use mostly unsaturated fats from olive or vegetable oils, nuts, seeds, avocado, and fish.

Omega-3 rich fish can support heart health and may reduce inflammation.

Limit trans fats and reduce frequent high saturated fat choices such as processed meats, butter-heavy foods, and deep-fried foods.

Fat helps absorb vitamins A, D, E, and K and improves energy density for people with poor appetite.

Very low-fat diets can be unpalatable and may reduce energy intake in frail adults.

Replace frequent fried foods with grilled, baked, stewed, or sauteed foods using modest amounts of unsaturated oil.



# Vitamins and Minerals

*Micronutrients become harder to meet when intake is low*

Calcium and vitamin D support bone and muscle function.

Vitamin B12 deficiency risk increases with low stomach acid, metformin, acid-suppressing medicines, and low animal food intake.

Iron deficiency may signal poor intake or blood loss and should be investigated.

Zinc, vitamin C, vitamin A, and protein support wound healing and immunity.

Potassium and magnesium from plant foods support blood pressure and metabolic health, unless restricted for kidney disease.

Supplements can help when indicated, but high doses can be harmful or interact with medicines.



# Water and Hydration

*Dehydration is common and often under-recognized in older adults*

Thirst sensation may decline with age.

Diuretics, laxatives, fever, diarrhea, diabetes, and heat increase fluid needs.

Dehydration can cause confusion, constipation, dizziness, falls, urinary problems, and hospitalization.

Offer fluids regularly, not only when the person asks.

Water, milk, soups, fruits, and oral rehydration solutions when needed can contribute fluid.

Use routine: a drink with each meal, between meals, and with medicines, unless medically restricted.



# Food Safety Requirements

*Older adults are at higher risk from foodborne illness*

Immune function and stomach acidity may decline, increasing vulnerability.

Use safe temperatures: cook thoroughly, refrigerate promptly, reheat properly.

Avoid high-risk foods when medically vulnerable: unpasteurized dairy, raw eggs, undercooked meats, unsafe leftovers.

Check expiration dates and refrigerator temperature.

Caregivers should monitor food storage, hygiene, and safe swallowing when needed.

When in doubt, throw it out. Leftovers should be labeled, chilled quickly, and reheated thoroughly.



# Meal Pattern and Plate Planning

*A simple plate model makes requirements easier to apply*

Half the plate: vegetables and fruits, adapted to chewing and tolerance.

One quarter: protein-rich foods at each meal.

One quarter: whole grains or starchy vegetables in appropriate portions.

Add calcium-rich foods or fortified alternatives daily.

Use healthy fats and fluids to complete the meal.

If appetite is low: serve smaller meals, protein first, add nutrient-dense snacks, and enrich foods with milk powder, yogurt, nut butter, or oil.



# Nutritional Problems in the Elderly

*Recognizing undernutrition, obesity, dehydration, deficiencies, and feeding barriers*

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Nutritional problems are often hidden until function declines.

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Common problems include malnutrition, sarcopenia, dehydration, constipation, obesity, and micronutrient deficiencies.

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Early screening prevents hospitalization, falls, wounds, and loss of independence.





# Why Nutritional Problems Are Common

*Many risk factors can occur at the same time*

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Low appetite, early fullness, taste changes, depression, and loneliness reduce intake.

Dental problems, dysphagia, tremor, arthritis, and poor vision make eating difficult.

Fixed income, poor transport, and limited cooking ability restrict food access.

Polypharmacy can cause nausea, dry mouth, constipation, diarrhea, or nutrient interactions.

Acute illness and hospitalization can rapidly accelerate weight and muscle loss.

Poor intake is often a symptom of a larger problem, not simply a lack of nutrition knowledge.



# Protein-Energy Malnutrition

*A major cause of frailty and poor outcomes*

Signs include unintentional weight loss, low appetite, loose clothing, weakness, fatigue, and poor wound healing.

Muscle loss may be missed if body fat is present.

Causes include illness, low income, depression, swallowing difficulty, dental pain, and restrictive diets.

Consequences include infections, falls, pressure injuries, delayed recovery, and hospitalization.

Management requires treating the cause plus increasing energy and protein intake.

Unplanned weight loss, eating less than half of meals, new weakness, recurrent infections, or pressure injury should trigger nutrition assessment.



# Sarcopenic Obesity

*High body weight can hide low muscle reserve*

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Sarcopenic obesity combines excess fat with low muscle mass and strength.

It increases diabetes, disability, pain, falls, and difficulty with daily activities.

Weight-loss diets without protein and exercise can worsen muscle loss.

Management focuses on protein adequacy, resistance exercise, and gradual fat loss when appropriate.

Do not use BMI alone to judge nutrition status in elderly adults.

Combine weight measures with grip strength, walking speed, chair rise ability, dietary intake, and medical history.



# Dehydration and Electrolyte Problems

*Small fluid deficits can cause major symptoms*

Risk factors: low thirst, cognitive impairment, fever, diarrhea, diuretics, heat, and limited access to drinks.

Symptoms may include confusion, dizziness, dry mouth, constipation, dark urine, and falls.

Electrolyte disturbances can occur with vomiting, diarrhea, kidney disease, or medications.

Prevention requires scheduled fluids and monitoring during illness or hot weather.

Fluid restriction should only be used when medically indicated.

Sudden confusion in an older adult is not normal aging. Consider dehydration, infection, medication effects, and metabolic causes.



# Constipation and Gastrointestinal Problems

*Common, uncomfortable, and often preventable*

Constipation is linked to low fiber, low fluid, inactivity, medications, and ignoring bowel urges.

Pain, hemorrhoids, poor appetite, and nausea can follow.

Diarrhea can cause dehydration and may be related to infection, medications, or intolerance.

Reflux and early fullness may reduce meal size.

Management includes fiber, fluids, movement, routine, and medical review when symptoms persist.

Increase fiber gradually, add fluids, encourage walking, and review constipating medicines with a clinician.



# Micronutrient Deficiencies

*Deficiencies may present as fatigue, falls, confusion, or poor healing*

Vitamin D deficiency:  
bone pain, muscle  
weakness, falls, fracture  
risk.

Vitamin B12 deficiency:  
anemia, neuropathy,  
cognitive symptoms, gait  
problems.

Iron deficiency: fatigue,  
pallor, shortness of breath,  
possible blood loss.

Calcium inadequacy:  
contributes to bone loss  
over time.

Zinc and vitamin C  
inadequacy: impaired  
wound healing and  
immune function.

Metformin and acid-  
suppressing drugs can  
contribute to B12 issues;  
diuretics and laxatives can  
affect hydration and  
electrolytes.



# Oral Health and Swallowing Problems

*Eating begins in the mouth*

Missing teeth, poorly fitting dentures, mouth pain, and dry mouth reduce intake.

Hard meats, raw vegetables, nuts, and dry breads may become difficult.

Dysphagia increases risk of choking, aspiration pneumonia, dehydration, and malnutrition.

Texture modification may be needed but should not reduce nutrient density.

Referral to dental care or speech-language/swallowing specialists may be necessary.

Pureed or soft diets can become low in protein and calories unless they are enriched and well planned.



# Food Insecurity and Social Isolation

*Nutrition problems are often social problems*

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Fixed income can force choices between food, medicines, transport, and utilities.

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Living alone reduces meal motivation and may increase reliance on tea, bread, snacks, or leftovers.

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Limited transport can reduce access to fresh foods and medical care.

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Cultural food preferences must be respected to maintain intake.

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Community meals, family support, delivery services, and social programs can improve intake.

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In the last month, did you worry that food would run out before you had money to buy more?

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# Screening and Assessment

*Early detection prevents severe decline*

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Track weight changes, appetite, meal completion, and function.

Look for muscle wasting at temples, shoulders, hands, and thighs.

Ask about chewing, swallowing, bowel habits, mood, money, and cooking ability.

Review medications and diagnoses that affect intake or absorption.

Use validated tools where available and refer to a dietitian for high-risk cases.

Grip strength, gait speed, falls, fatigue, and ability to shop/cook often reveal nutrition risk earlier than lab values alone.



# Diet Modification for the Elderly

*Adapting meals to physiology, disease, function, culture, and preference*

Diet modification means changing food texture, nutrient density, timing, portions, and composition.

The goal is safe, adequate, enjoyable eating - not unnecessary restriction.

Plans must fit the person, caregiver, budget, culture, and medical condition.





# Steps in Diet Modification

*Use a structured approach before changing the diet*

## 1 Assess

Review weight, appetite, diseases, medicines, chewing, swallowing, bowel habits, activity, labs, mood, and social support.

## 2 Prioritize

Choose the most urgent problem: weight loss, dehydration, dysphagia, uncontrolled glucose, hypertension, constipation, or wounds.

## 3 Adapt

Modify texture, meal size, protein, energy, sodium, sugar, fat quality, fluids, and micronutrients as needed.

## 4 Educate

Teach the older adult and caregiver using simple, specific, culturally familiar examples.

## 5 Monitor

Track intake, weight, symptoms, labs, strength, bowel pattern, hydration, and satisfaction.



# Texture Modification

*For chewing or swallowing difficulty*

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Soft diets use tender, moist foods that require less chewing.

Minced, moist, or pureed diets may be needed for dysphagia under professional guidance.

Thickened liquids may be prescribed when thin liquids are aspirated.

Texture-modified meals must still provide protein, calories, fiber, vitamins, and fluids.

Presentation, flavor, and variety remain important for appetite.

Soft options: scrambled eggs, fish, minced chicken in sauce, lentil soup, yogurt, mashed beans, soft-cooked vegetables, stewed fruit.

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# Energy and Protein Enrichment

*For poor appetite, weight loss, wounds, or frailty*

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Use small frequent meals when large meals are overwhelming.

Add protein to every eating time: eggs, yogurt, milk, cheese, fish, poultry, legumes, tofu, or fortified drinks.

Enrich foods with milk powder, oil, nut butter, tahini, avocado, cheese, or ground nuts when suitable.

Serve protein first if the person becomes full quickly.

Use oral nutrition supplements when food alone is not enough and clinical guidance supports it.

Fortified porridge: oats cooked with milk, milk powder, peanut butter or tahini, banana, and cinnamon.



# Diet Modification for Hypertension and Heart Disease

*Reduce risk without reducing food enjoyment*

Lower sodium by reducing salty processed foods, bouillon cubes, pickles, cured meats, salty snacks, and heavy added salt.

Use herbs, spices, lemon, vinegar, garlic, and onion for flavor.

Choose vegetables, fruits, legumes, whole grains, nuts, and low-fat or appropriate dairy foods often.

Prefer unsaturated fats and fish; limit fried foods and processed meats.

Avoid over-restriction in frail adults; appetite and adequacy still matter.

Make a no-salt seasoning mix using garlic, cumin, black pepper, paprika, dried herbs, lemon, and vinegar.



# Diet Modification for Diabetes

*Focus on carbohydrate quality, distribution, and safety*

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Avoid sugary drinks; choose water, unsweetened tea, milk, or appropriate alternatives.

Distribute carbohydrate across meals instead of taking a very large portion at one time.

Choose high-fiber carbohydrates: legumes, whole grains, vegetables, and whole fruits.

Pair carbohydrates with protein and healthy fat to improve satiety and glucose response.

Prevent hypoglycemia: medication timing and meal regularity are especially important in older adults.

Lentil soup, salad or cooked vegetables, small portion of whole grain bread or rice, yogurt, and water.



# Diet Modification for Constipation and Hydration

*Support bowel function gently and consistently*

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Increase fiber gradually using oats, fruits, vegetables, beans, lentils, whole grains, and seeds when tolerated.

Increase fluids alongside fiber to avoid worsening constipation.

Encourage daily movement within ability.

Establish a regular toilet routine, especially after breakfast.

Review medications that cause constipation and seek medical advice for persistent symptoms.

Breakfast with oats or whole grain bread, warm drink, fruit, and a short walk can stimulate bowel movement.



# Diet Modification for Bone, Muscle, and Fall Prevention

*Food and movement work together*

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Include protein-rich foods at breakfast, lunch, dinner, and snacks when needed.

Include calcium-rich foods: dairy, fortified plant milks, fortified foods, tofu set with calcium, small fish with bones, or leafy greens.

Vitamin D may require supplementation depending on sun exposure, diet, and lab status.

Combine nutrition with resistance exercise and balance training.

Limit alcohol and avoid dehydration to reduce fall risk.

A protein-rich breakfast plus chair stands or resistance-band exercises can support muscle maintenance.

# Diet Modification During Illness or Recovery

*Needs rise when appetite often falls*

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During infection, surgery, wounds, or hospitalization recovery, protein and energy needs often increase.

Offer small frequent meals, favorite foods, and high-protein snacks.

Manage nausea, pain, constipation, dry mouth, and swallowing problems quickly.

Monitor weight, fluid intake, wound healing, and strength.

Temporary liberalization may be appropriate when poor intake is the greater risk.

Yogurt, egg custard, milk smoothie, lentil soup, hummus, cheese sandwich, tuna spread, or fortified porridge.



# Practical Meal Planning for the Elderly

*Make healthy eating simple, safe, and repeatable*

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Plan easy meals with minimal chopping and safe cooking methods.

Use batch cooking, frozen vegetables, canned beans, canned fish, yogurt, eggs, and ready-to-eat fruit when appropriate.

Keep nutrient-dense snacks visible and easy to reach.

Use adaptive utensils, non-slip mats, good lighting, and seated food preparation if needed.

Respect cultural foods and modify recipes rather than replacing the whole diet.

Soft omelet with vegetables, yogurt, fruit, and water; or lentil soup with olive oil, soft bread, and cooked vegetables.



# Ethical and Person-Centered Considerations

*Respect autonomy, dignity, and quality of life*

The older adult should be involved in food choices whenever possible.

Do not force unnecessary restrictions at the expense of pleasure and intake.

Consider religious, cultural, emotional, and family meanings of food.

Balance risk and benefit: strict control may not be the best goal for frail elders.

Use shared decision-making with the person, family, caregiver, and health team.

What change will improve health while still allowing this person to enjoy eating and live with dignity?



# Final Summary

*Nutrition care in elderly adults is prevention, treatment, and quality-of-life care*

Nutrition and lifestyle diseases are linked through long-term dietary and behavior patterns.

Aging changes physiology, appetite, digestion, body composition, immunity, and function.

Elderly nutrition must emphasize nutrient density, protein, hydration, micronutrients, and food safety.

Common problems include malnutrition, sarcopenia, dehydration, deficiencies, constipation, and social barriers.

Diet modification should be individualized, practical, safe, culturally acceptable, and enjoyable.





Thank You 😊