

# Chapter 27

## Nutrition and Fluids

# Basic Nutrition (1 of 2)

- The client's diet affects their physical and mental growth and functioning.
- Food and drink contribute to both social and emotional health.
- A poor diet and poor eating habits:
  - Increase the risk of diseases
  - Cause chronic illnesses to become worse
  - Affect physical and mental functioning, which increases the risk for accidents and injuries

# Basic Nutrition (2 of 2)

- *Nutrition* refers to the processes involved in the *ingestion, digestion, absorption*, and use of foods and fluids by the body.
  - Good nutrition is needed for growth, healing, and body functions.
  - A well-balanced diet and correct calorie intake are needed.
  - Foods and fluids contain *nutrients*.
    - Nutrients are grouped into fats, proteins, carbohydrates, vitamins, minerals, and water.

# Nutrients (1 of 3)

- No food or food group contains every essential nutrient.
  - Protein is needed for tissue growth and repair.
  - Carbohydrates provide energy and fibre for bowel elimination.
  - Fats provide energy.
    - They add flavour to food and help the body use certain vitamins.
    - 3 types of fat:
      - Saturated
      - Trans
      - Unsaturated

# Nutrients (2 of 3)

- Vitamins are needed for normal body function and growth.
  - They do not provide calories.
- Minerals are used for many body functions
  - See textbook *Table 27.1: Vitamins: Major Functions and Sources*
  - See textbook *Table 27.2: Minerals: Major Functions and Sources*

# Nutrients (3 of 3)

## □ Water

- This is the most important nutrient necessary for life.
- The body needs water in order to maintain cell function, regulate body temperature, deliver nutrients, remove waste, and perform other body processes.

# Canada's Dietary Guidelines (1 of 3)

- Canada's Food Guide was developed by Health Canada to promote wise food choices
  - 2019 version of Canada's Food Guide with accompanying *Canada's Dietary Guidelines* focuses on:
    - Being mindful of eating habits
    - Cooking more often
    - Enjoying your food
    - Eating meals with others
    - Being aware of food marketing

# Canada's Dietary Guidelines (2 of 3)

- Guidelines now include the importance of food skills
  - Cultural food practices should be celebrated, e.g., *“Food skills should be considered within the social, cultural and historic context of Indigenous Peoples”*
- Healthy eating is needed to:
  - Ensure essential nutrients
  - Promote health and overall sense of physical and mental well-being
  - Reduce the risk of health issues related to nutritional deficiencies



# Canada's Dietary Guidelines

## (3 of 3)

- Vegetables and Fruits
  - Provide carbohydrates, vitamin C and A, iron and magnesium
  - Are naturally low in fat
- Whole Grain Foods
  - Contain fibre, vitamins, and minerals
- Protein foods
  - Contain protein, vitamins and minerals
    - Should eat more plant-based proteins, if possible, as these are better for heart health, contain more fibre and less saturated fat than other types of protein sources

# Nutritional Challenges That Canadians Face

- Limited income
- Geographic isolation
- Inclement weather
- Lack of availability of local foods
- Lack of education about nutrition
- Mental illness or addictions

# Nutrition Throughout the Life Cycle

## (1 of 4)

- Infancy and childhood
  - Period of rapid growth
  - Children under 4 years should not be given a low-fat diet because fat is needed for brain development.
  - Teaching children how to prepare healthy foods will help foster lifelong healthy eating choices.

# Nutrition Throughout the Life Cycle (2 of 4)

- Adolescence

- A growth spurt occurs during puberty, which increases nutritional needs at this time.
- Many adolescents have unhealthy eating habits.
- Poor eating habits can lead to poor physical and/or mental health.

# Nutrition Throughout the Life Cycle (3 of 4)

- Young and middle adulthood
  - During this stage, most adults have lower energy needs than adolescents
  - Energy needs continue to decline into 40s and 50s
  - Pregnancy
    - During pregnancy, women require nutrient-rich food and about 500 additional calories per day to support the growing fetus
    - Should also increase their intake of folic acid, iron, and calcium to reduce the risk for spinal cord and brain abnormalities in their babies

# Nutrition Throughout the Life Cycle (4 of 4)

- Late adulthood

- Older persons have wide variations in health and nutritional status.
- Nutritional status is affected by emotional, social, and physical factors:
  - Many require transportation to obtain groceries.
  - Income may not be adequate to buy more nutritious food
  - Physical changes can affect nutrition.
  - Those living in long-term care facilities may not like the food that is served.
- Older persons require lower calories, high protein foods, high-calcium and high-fibre foods.

# Factors That Affect Eating and Nutrition (1 of 2)

- Personal choice
- Allergies
- Food intolerances
- Religion
- Culture
  - See textbook box: *Respecting Diversity: Overcoming Cultural Barriers*

# Factors That Affect Eating and Nutrition (2 of 2)

- Finances
  - People with limited income may buy cheaper (less nutritious) foods, so their diets may lack proteins, vitamins, and minerals.
- Appetite
  - Loss of appetite can occur from illness, medications, anxiety, pain, depression, and unpleasant sights, thoughts, and smells.
- Illness
- Aging



# Food Labels

- Food labels are used to help people make informed food choices for a healthy diet or a special diet ordered by physician.
- Food labels have three components:
  - List of ingredients
  - Nutrition facts (calories, nutrient information, daily value percentages)
  - Nutrition claims (e.g., “low in fat,” “high in fibre”)

# Caffeine Intake

- Caffeine consumption of 400 mg per day is not associated with any adverse effects.
- Small or larger amounts of caffeine can cause insomnia, headaches, irritability, and nervousness.
- Pregnant or breastfeeding women should not exceed 300 mg/day.
- 1 cup (250 mL) of coffee has 135 mg of caffeine.
- Also consider caffeine found in colas, chocolates, energy drinks, and over-the-counter medications.

# Meal Planning and Preparation

- As a support worker, you may be required to plan menus and shop for groceries.
- When preparing meals, consider:
  - Dietary requirements
  - Food preferences
  - Eating and swallowing challenges
  - Eating habits

# Shopping for Groceries

- Use a shopping list.
- Check expiry dates:
  - *Sell by date*—most food will keep 3 days beyond date
  - *Best before date*—last date of guaranteed freshness
  - *Expiry date*—last date on which product can be safely consumed

# Handling Client's Money

- Clients will usually provide cash for grocery shopping—keep a separate wallet for client's money.
- Keep receipts, and return the right amount of change to the client.
- Follow employer's policies about handling clients' money.

# Following Recipes

- Use a recipe when cooking—consult a cookbook (or online recipe).
- Never substitute an ingredient without getting client's permission AND checking the care plan.
  - Do NOT use a substitute ingredient if the client is on a special diet or has a food allergy.
  - Consult supervisor for guidance
  - See textbook *Table 27.3: Approximate Equivalent Measurements*

# Food Safety (1 of 3)

- Foodborne illness

- A *foodborne illness* (food poisoning) is caused by pathogens in food and fluids.
- Signs and symptoms depend on the pathogen.
- Common signs include diarrhea, nausea, and vomiting.
- Children and older persons, as well as those with chronic illnesses and weakened immune systems, are at greatest risk.

# Food Safety (2 of 3)

- Food is not sterile.
  - Pathogens are present when food is purchased.
  - Foods can become contaminated from other food (*cross-contamination*).
  - Food handlers with poor hygiene can contaminate the food.
  - Pathogens thrive at room temperature, but many die at temperatures below 4°C and above 60°C.
  - Ensure that you use safe food-handling practices.



# Food Safety (3 of 3)

- To keep food safe, use these safety tips:
  - Food preparation
    - Wash hands, utensils, and countertops often.
    - Rinse raw meats, poultry, and seafood before use.
  - Cooking and reheating
    - Cook foods to at least their minimum safe temperature.
  - Food storage
    - Avoid cross-contamination; prevent contact between raw and ready-to-eat food.
    - Be mindful of raw chicken meat fluids dripping on other foods in the refrigerator.
  - See textbook *Box 27.2 : Guidelines for Safe Food Practices*

# Special Diets

- Doctors may order special diets for clients:
  - For a nutritional deficiency or a disease
  - For weight control
  - To eliminate or decrease certain substances in the diet
- Three common special diets:
  - Sodium-controlled diet
  - Diabetic diet meal planning
  - Gluten-free diet
- Many clients and residents need special diets.
- The terms *regular diet*, *general diet*, and *house diet* mean there are no dietary limits or restrictions for the client.

# Sodium-Controlled Diet

- Sodium causes the body to retain water.
- Sodium control by diet decreases the amount of sodium in the body.
- The doctor orders the amount of sodium allowed (e.g., 2 000–3 000 mg, 1 000 mg, 500 mg sodium diets)
- Sodium-controlled diets involve:
  - Omitting high-sodium foods
  - Not adding salt to food at the table, or limiting the amount of salt used in cooking
  - Diet planning

# Diabetic Diet

- Diabetes meal planning is for people who have diabetes.
  - *Type 1 diabetes*—caused by lack of insulin
  - *Type 2 diabetes*—caused by insulin resistance
- The dietitian and client develop an appropriate meal plan, which involves:
  - The client's food preferences
  - Calories needed
  - Eating meals and snacks at regular times

# Gluten-Free Diet

- *Gluten* is a protein that comes from wheat or related grains, such as barley, oats, rye, triticale, Kamut, or spelt.
- About 1% of the Canadian population cannot tolerate gluten.
- *Celiac disease* is caused by a negative physical reaction to a gluten protein, causing inflammation and destruction of the inner lining of the small intestine.

# Assisting Clients With Eating (1 of 5)

- A client's appetite and ability to eat can be affected by weakness and illness, odours, unpleasant equipment, an uncomfortable position, the need for oral hygiene, the need to eliminate, and pain.
- Make mealtimes enjoyable:
  - Assist with menu choices
  - Make the setting attractive
  - Serve hot meals immediately
  - Serve moderate portions
  - Make mealtimes social occasions
  - See textbook box: *Providing Compassionate Care: Assisting a Client With Eating*

# Assisting Clients With Eating (2 of 5)

- Help client prepare for meals:
  - Assist with oral hygiene, elimination, handwashing.
  - Change clothing and provide clean linens for clients who are incontinent.
  - Be sure dentures, eyeglasses, and hearing aids are in place.
  - Help the client get to the dining room.
  - Ensure the client is in a comfortable position for eating.
    - See textbook box: *Focus on Long-Term Care: Dining Programs*

# Assisting Clients With Eating (3 of 5)

- Allow time and privacy for prayer.
- Engage the person in pleasant conversation.
- Allow time for chewing and swallowing.
- Sit facing the person.
- Wipe the person's hands, face, and mouth as needed during the meal.
- Offer plenty of fluids.
- Never force a client to eat.
- Report and record your actions and observations.



# Assisting Clients With Eating (4 of 5)

- Between-meal nourishments
  - Follow the same considerations and procedures as for serving meal trays and feeding clients.
- Calorie counts
  - On a flow sheet, note what the client ate and how much.
  - A nurse or dietitian converts the portions into calories.

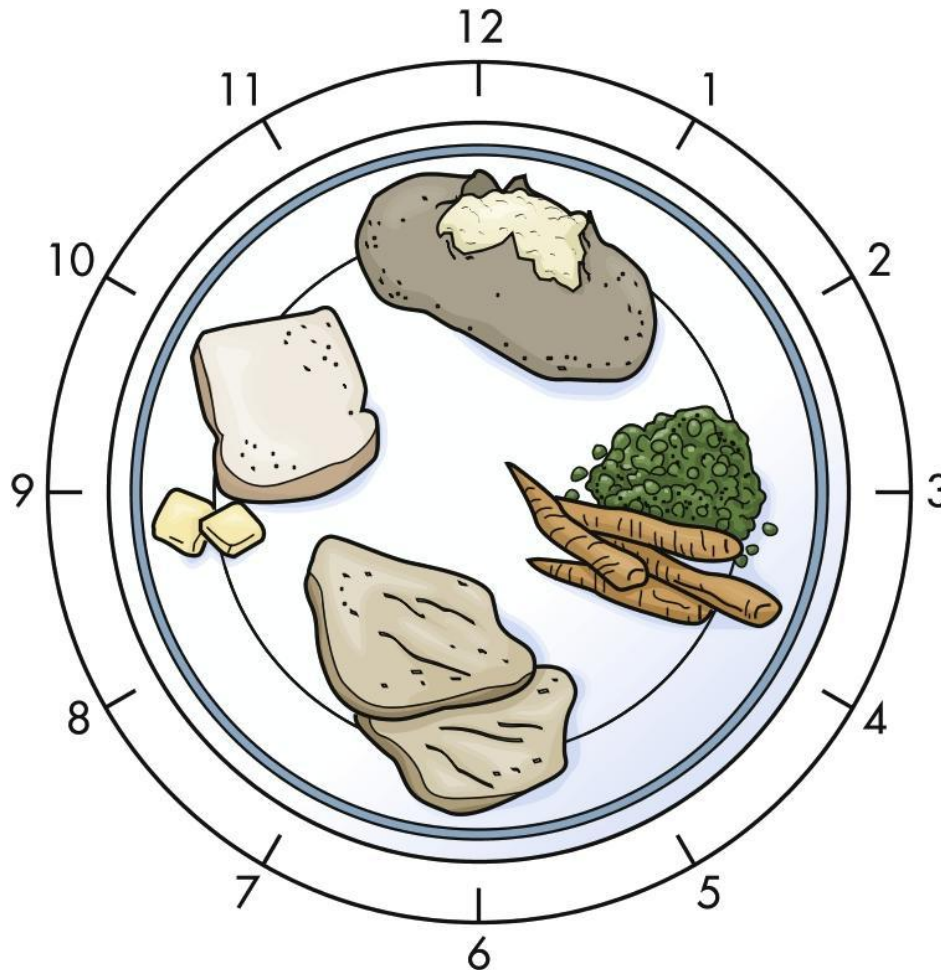
# Assisting Clients With Eating (5 of 5)

- Providing drinking water
  - Clients and residents need fresh drinking water each shift and whenever the pitcher is empty.
  - Follow your employer's procedure for providing fresh drinking water.

# Assisting Clients With Eating Challenges (1 of 3)

- Chewing difficulties
  - Offer plenty of fluids
  - Offer small mouthfuls
  - Give the client time to chew
- Weakness—low energy
- Vision impairment
  - Identify location of foods and fluids on tray or table for client.
    - Use numbers on a clock to identify location of food.
  - Describe the foods you are offering to the client.

# Assisting Clients With Eating Challenges (2 of 3)



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# Assisting Clients With Eating Challenges (3 of 3)

- Clients with swallowing difficulties
  - Help the client sit upright, leaning slightly forward.
  - Ask client to lower chin when swallowing.
  - Offer plenty of liquids.
  - Give time to chew and swallow.
  - Client to remain sitting for at least 30 minutes after meal.
- Three common consistencies of thickened liquids:
  - Nectar-thickened and easily pourable
  - Honey-thickened or slightly thicker
  - Pudding-thickened

# Serving Meal Trays (1 of 2)

- Clients in long-term care are encouraged to eat in the dining room.
  - Those who are too ill to move, eat in their rooms.
- Most clients in hospitals eat meals in their room.
  - Meals served in beds and bedrooms are delivered on trays.

# Serving Meal Trays (2 of 2)

- Ensure that you serve meal trays promptly to ensure right food temperature.
- Home care clients usually eat in their own dining room or kitchen.
  - See textbook procedure: *Assisting a Client to Eat Meals From a Food Tray*

# Fluid Balance (1 of 2)

- Death can result from too much or too little water.
- Fluid balance is needed for health.
  - The amount of fluid taken in (intake) and the amount of fluid lost (output) must be equal.
    - If fluid intake exceeds fluid output, body tissues swell with water (*edema*).
    - If fluid output exceeds intake, *dehydration* occurs



# Fluid Balance (2 of 2)

- An adult needs 1 500 mL of water daily to survive.
  - About 2 000 to 2 500 mL of fluid per day are needed for normal fluid balance.
- Common special fluid orders are:
  - Encourage fluids
    - The client drinks an increased amount of fluids.
  - Restrict fluids
    - Fluids are limited to a certain amount.
  - Nothing by mouth (NPO)
    - The client cannot eat or drink anything.

# Intake and Output (1 of 3)

- Intake and output records
  - The doctor or nurse may order intake and output (I&O) measurements.
  - I&O records are kept:
    - To evaluate fluid balance and kidney function
    - To help in evaluating and planning medical treatment
    - When the client has special fluid orders

# Intake and Output (2 of 3)

- The following fluids are measured and recorded:
  - All fluids taken by mouth
  - Foods that melt at room temperature
  - IV fluids and tube feedings
- Output includes urine, vomitus, diarrhea, and wound drainage.

# Intake and Output (3 of 3)

- Measuring intake and output
  - Intake and output are measured in millilitres (mL)
    - 30 mL = 1 ounce
    - 500 mL is about 1 pint
    - 1 000 mL is about 1 quart
  - A measuring container for fluid is called a *graduate*.
  - The measuring device is held at eye level to read the amount.
  - An I&O record is kept at the bedside.
  - Amounts are totalled at the end of the shift.
  - The purpose of measuring I&O and how to help are explained to the client.
  - The urinal, commode, bedpan, or specimen pan is used for voiding.