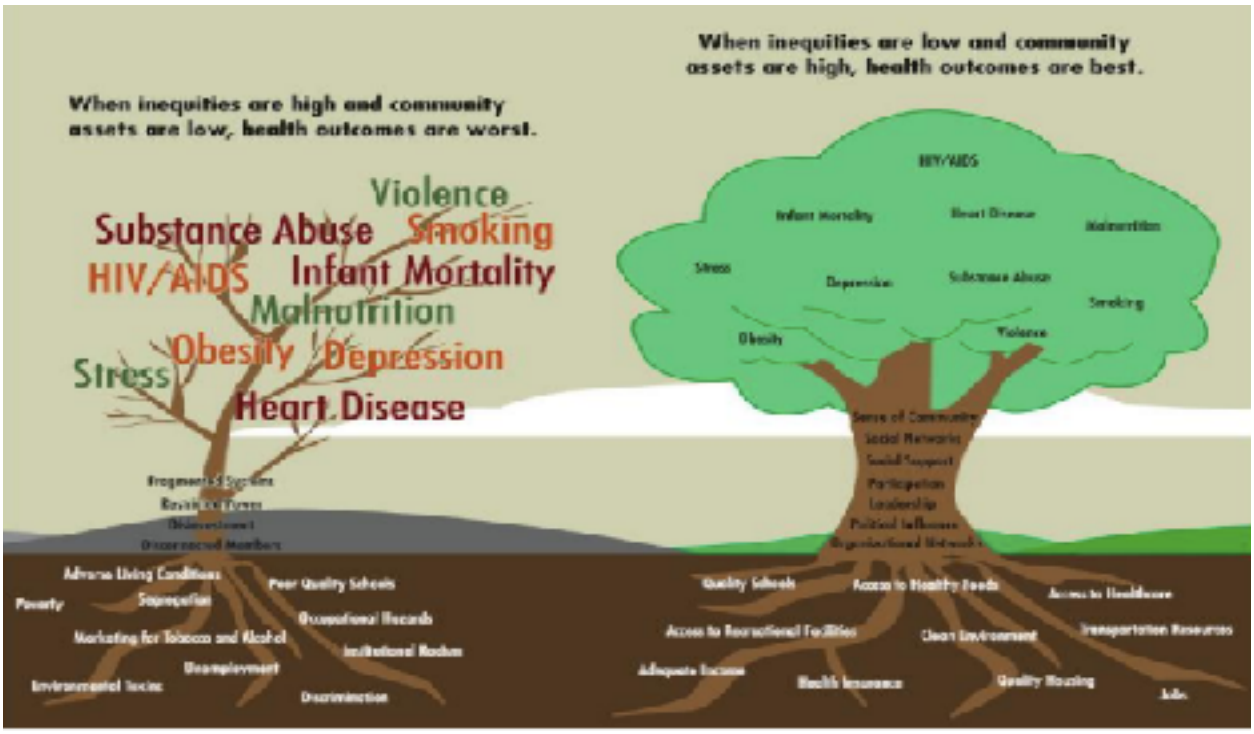
DETERMINANTS OF HEALTH

MODULE 1 - SOCIAL DETERMINANTS OF HEALTH: THE BASICS

What is the difference between variations in health and **social inequities** in health? Social inequities in health are systematic differences in health status between different socioeconomic groups. These inequalities are socially produced and unfair.



Social determinants of health: life-enhancing resources, such as food, supply, housing, economic and social relationships, transportation, education and health care whose distribution across populations effectively determines length and quality of life. Opportunities should be spread in an equatable way not in an equal way in the community.

Community: a group of people with a shared identity, including; same oppressions, living in a particular geographic area, having some level of social interaction, sharing a sense of belonging or having common political or social responsibilities.

Health equity: opportunity for everyone to attaint his or her fuller health potential. No one is disadvantaged from achieving this potential because of his or her social position or other socially determined circumstance. People getting what they need to obtain their full potential. It is distinct from health equality. The level of need is different for a same level of opportunity.

Health inequities: systematic and unjust distribution of social, economic and environmental conditions needed for health.
- Unequal access to quality education, healthcare, housing, transportation, other resources
- Unequal employment opportunities and pay/income
- Discrimination based upon social status/other factors

Health disparity (it is used to mesure the magnitude of health inequity. Health inequities CAUSE health disparity): differences in the incidence and prevalence of health conditions and health status between groups, based on:
- race/ethnicity
- Socioeconomic status
- Sexual orientation
- Gender
- Disability status
- geographic location
- Combination of these

* Health status is not linked to racial groups because regardless of their race, the less educated are linked to poorer health. Compared with other ethnicities but for the same level of education, a certain ethnic group can have poorer health than other because of a combination of criteria (neighborhood, the way they have been brought up)

PERSONAL NOTES
Three factors turn those variations/differences into social inequity in health:
A) Systematic
B) Socially produced (therefore modifiable)
C) Unfair

A) Systematic pattern of the differences in health:
- Are not random but show a consistent pattern

Example : the systematic differences in health between different socioeconomic groups
- morality and morbidity increase with declining social positions
- This social pattern of disease is universal

B) Social process that produce health differences:
- Not determined biologically
- Health inequity
- Those differences are amendable to alteration through the effort of that country

Example : the children of pool families die at twice the rate as that of children in rich families

C) Social inequities: unfair
- Unjust social arrangements

Example: it's unfair if the chance of survival was much poorer for the children of different socioeconomic groups.

Fairness and human rights
Universal human rights: everyone has the right to enjoy the highest attainable standard of health in their society.
- Discrimination and bias leads to differences in access to the resources and opportunities for health between social groups
- Health = better education and employment, prompts freedom.

The existence of clear social differentials in health and in their determinants goes against accepted values of **fairness** and justice. Its important for a society to organize its health resources equitably.

ALL systematic differences in health between different socioeconomic groups within a country is considered **unfair** and classed as **health inequities**. Social inequities in health are generated by social, economic and environmental factors and structurally influenced lifestyles.
Health status of a group = standard of attainable health in any given society

Equity in health
The highest standards of health should be within reach of all, without distinction of race, religion, political belief, economic or social condition. It involves the fair distribution of ressources needed for health, fair access to the opportunities available and fairness in the support offered to people when ill.
Outcome: reduction of all differences in health between different socioeconomic groups

Consequences of systematic differences in health between different social groups: most disadvantaged groups have worse health and higher mortality. This manifests itself in large differences in life expectancy between the extremes of the social scale.

The phenomenon of the social gradient
Social gradient: a decrease in health is seen with decreasing social position.
Example: the mortality increases with increasing social disadvantage (education, employment and social class).

Shortfall: the number of lives that would have been saved if all groups in society had the same high level of health as the most advantaged group. A shortfall is therefore the impact of the social gradient on health.

A higher magnitude of inequity experienced within a country = less advances in life expectancy for a country as a whole. Inequity indicates also the scale of improvement possible. It demonstrates what groups with the greatest advantages have already achieved and what is feasible for others to attain.

Social inequities in access to health services
The availability of good medical care tends to vary inversely with the need for it in the population service.

Geographic access: location and physical availability of health services in different parts of a country. Example: clustering of publicly financed private specialists serving rich communities and scarcity in the low-income areas.

Economic access: People in need of emergency care are turned away from a clinic or hospital and left to die because they cannot afford to pay. Some people delayed seeking treatment because of the cost.

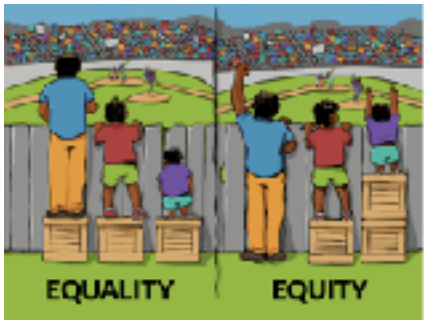
Medical property trap: the impoverishment caused by paying for medical care. Seen a lot in more developed countries.

Cultural access: Acceptability and respect. Language and culture become barriers for ethnic groups and immigrants. Barrier between a professional health worker and less educated patients (the lack of awareness and understanding of the day-to-day restrictions). Patients from less advantaged backgrounds receive less attention = different quality and level of respect.

Differences in treatment outcome: recovery after an operation or drug treatment to control a chronic disease aren’t the same for everyone because of the socioeconomic conditions under which certains patients live. Result of inequities in social determinants of health.

Equitable health
Fair arrangements that allow equal geographic, economic and cultural access to available services for all in equal need of care. Similar utilization rates for different economic groups does not signify equitable service. That is because the underlying need for care tends to be greater among lower socioeconomic groups. The medical care offered should correspond to the need of care so the same level of health in all socioeconomic groups is met. Equal use for equal need.

Different goals for equity in health and in health care
Equity in health: the ultimate goal would be the elimination of all systematic differences in health status between socioeconomic groups.
Equity in health care: the ultimate goal would be to closely match services to the level of need which may result in large differences in access and use of services between different socioeconomic groups, favouring the more disadvantaged groups in greatest need.



Summary of lesson: Social inequities in health are systematic differences in health status between different socioeconomic groups. These inequities are socially produced and unfair. This judgement about unfairness is based on universal human rights principles. Equitable health is not the same as equal health. Some social group need more arrangements in order to obtain the same level of health care as another social group. Therefore, distributing medical care equally won't necessarily lead to an equitable service. Each group's health needs should be assessed separately.

MODULE 2 - DISCOVERING YOUR PERSONAL RYTHM FOR HEALTHY LIVING
Chapter 1 of manual

What is health?
Broad scope of definitions: has evolved over time
- free of sickness, good shape (resist disease), wellness
- Many nuances to health and well-being

Dimensions: physical, social, mental, occupational, emotional, environmental and spiritual

Health and sickness: defined by extremes
- Changing view of health:
  - Late 1800s: health was the absence of disease (like infections)
  - Early 1900s: waste disposal, hand washing and good hygiene

Health: more than not being sick
- Health due to disease: infectious and chronic
  - Decreased morbidity (illness) and mortality rates
  - “Not merely absence of disease”
    - its also not being obese and be in good form
    - State of complete mental, physical and emotional wellbeing

Health as wellness: putting quality into years
- Dynamic multi dimensional process characterized by adaptability to life situations
  - Physical: being in your best shape
  - Social: ability to have satisfying interactions with others
  - Intellect: ability to think clearly, to reason objectifically and align critically and use brain power effectively
  - Occupational: satisfaction that you gain from your career and activities. It is important to have a balance between work and leisure
  - Emotional: satisfaction of feeling and ability to express those feelings in any situation
  - Environment: appreciation of your environment and able to protect it
  - Spiritual: deepest part of you, the part that provides meaning, purpose and energy to your life
- Wellness: achieving higher levels in each dimension of health

Health promotion: efforts made to encourage healthy behaviours with a goal of improving the health of an individual or population. Optimal conditions for successful behaviour change:
- educational support
- Organizational support
- Environmental support
- Financial support

Integrated pan-canadiana healthy living strategy:
- supports Canadian health-care system
- Population health approach: living, working conditions addressed
- Emphasizes “healthy living targets”; physical activity, nutrition and healthy weight
- Overall approach is greater than any one element
- Being supportive, understanding and non-judgmental

** Our health lives in the environment where we live, work and play. Everything that is around us has an effect on our health. Our own behaviour has the most impact on our health.

Prevention: the key to future health
1) Primary prevention: stop health problems before they start; it is cheaper to prevent a problem than to fix it
2) Secondary prevention: early intervention; reduce symptoms; halt progression; being able to identify that there is a health issue; screening and medical check ups are done to detect problem in their really stages
3) Tertiary prevention: treatment, rehab; limit effects of disease

Sexe differences
Many diseases are more common in women than in men and some diseases manifest differently between women and men. The factory reflecting sex biases in medical research:
- Androcentricity: viewing the word from a male perspective.
- Overgeneralization: generalizing medical research where the results are not inclusive.
- Gender insensitivity: overlooking sex as an important variable.
- Double standards: evaluation, treatment or measurement of identical behaviours, traits or situations by different means.

Benefits of achieving optimal health
- stronger immune system
- Improved self-confidence
- Better sleep
- Enhanced relationships
- Improved ability to control stress
- Reduced reliance on health-care system
- Improved cardiovascular functioning
- Increased fitness
- More positive outlook on life
- Improved environmental sensitivity
- Enhanced levels of spiritual health

Preparing for behaviour change:
- Time-consuming and difficult
- Gradual change may enhance success
- Different approaches effective for different people
- Decide what you want to change, determine actions, make a plan, put the plan to action

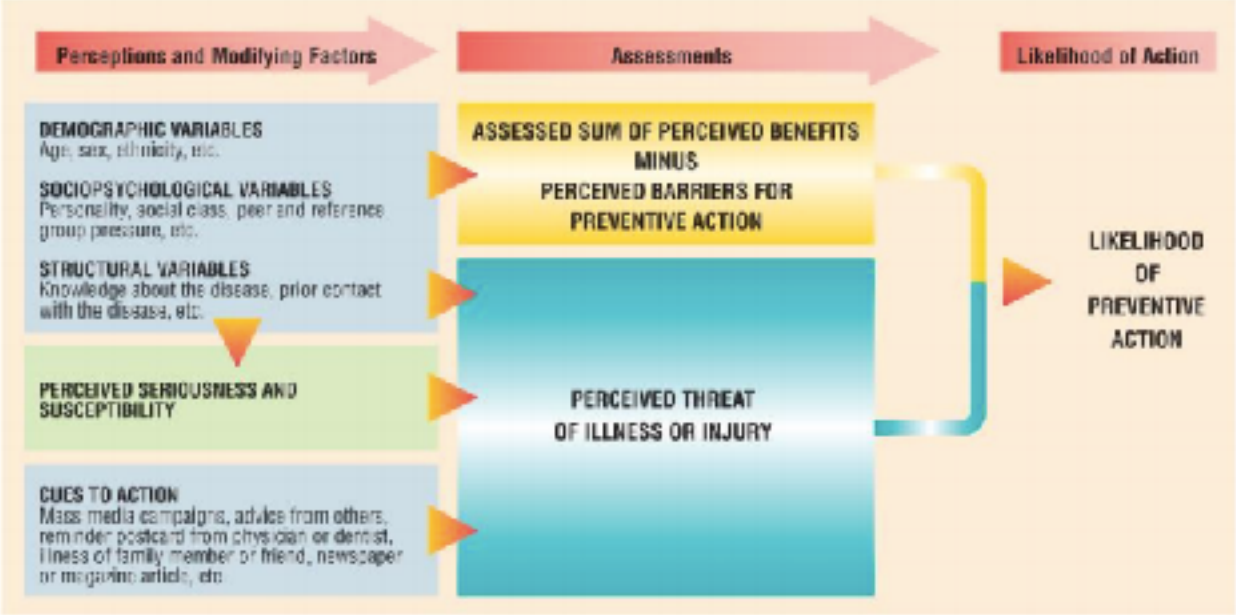
Factors influencing behaviour change:
- Predisposing factors: sex, race, income, family education
- Enabling factors: skills, abilities, physical, emotional and mental capabilities
- Reinforcing factors: support and encouragement from significant others

It is important to understand when to change vs what to change.

Stages of change, transtheoreical model:
1. Pre contemplation = when one has no intention to change but they are aware of the issue
2. Contemplation = they are aware of the issue and are thinking of changing
3. Preparation = close to taking action
4. Action = actually start changing (planning, steps)
5. Maintenance = maintain the change and long term commitment
6. Termination = when you recognize that you changed and that you have to maintain this change. When change is part of your daily life, it becomes a normality
7. Relapse

Your beliefs and attitude:
Belief = appraisal of object, action; its attribute
Attitude = stable beliefs, feeling and behavioural tendencies; in relation to something/someone

Health belief model (HBM)



Factors that support belief that change is needed:
- perceived seriousness of the health problem
- Perceived susceptibility to the health problem
- Cues to action

Theory of reasoned action (your intentions to change): behaviours result from intentions to perform actions.

Significant others as change agents: your family influences food choices, political beliefs
The influence of others (theory of planned behaviour): attitudes toward the behaviour; level of perceived behavioural controls subjective norms.

Behaviour change techniques

1. Shaping: developing new behaviours in small steps
    - start slowly
    - keep steps small and achievable
    - be flexible and adaptable
    - master step before moving on to next one
    - reward yourself for short and long term goals
2. Visualizing: the imagined rehearsal
    - visualizing planned actions ahead of time
3. Modelling: careful observations of others
4. Controlling the situation: situational inducement
5. Reinforcement: types of positive reinforcers (rewarded behaviour)
    - consumable (food or drink)
    - activity (participation)
    - manipulative (inensitives)
    - possessional (tangible)
    - social (kind acts)
6. Changing self-talk
    - rational-emotive therapy; connection between what you say and how you feel
    - meincwhenbaum's self-instructional methods; self instructions and positivity
    - purposely stopping negative thoughts

Making behaviour change

Self-assessment: Antecedents and consequences

- Evens before and after a behaviour: recognition

Analyzing the behaviours you want to change; frequency; duration; seriousness; basis for the problem behaviour; antecedents.

Decision making: choices for change
D = decide in advance what the problem is
E = explore the alternatives
C = consider the consequences
I = identify your values
D = decide and take action
E = evaluate the consequences

Summary of lesson: Health is a dynamic multi dimensional process characterized by the adaptability to life situations. Those dimensions touch physical, social, intellectual, occupational, emotional, environment and spiritual wellness. Health promotions are set in place in order for one to realize what they have to change in their habits in order to achieve a better health. Optimal conditions for a successful behaviour change are educational, organizational, environmental and financial support. Behavioural change is a long and demanding process that takes a lot of effort, planning and determination to maintain and achieve. Nevertheless, this effort pays back once you achieve optimal health that leads to many other benefits.

1MODULE 3 - MEDICAL ERRORS

Communication breakdowns, diagnostic errors, poor judgment and inadequate skill can directly result in patient harm and death.

Medical error
The unintended act or one that does not achieve its intended outcome, the failure of a planned action to be completed as intended, the use of a wrong plan to achieve an aim or a deviation from the process of care that may or may not cause harm to the patient.

Death certificated used to compile national statistics have no facility for acknowledging decimal error. The system for measuring national vital statistics should be revised to facilitate better understanding of deaths due to medical care. Medical error causes a rough estimate of 440 000 deaths annually making it the third most common cause of death in the US.

Why it is important to be public about medical errors
Being public about error helps drawing attention to the issue and provides a well of knowledge. It helps prevent mistakes and deaths.

Strategies to reduce death from medical care should include three steps:
1. Making error more visible when they occur so their effects can be intercepted
2. Having remedies at hand to rescue patients
3. Making errors less frequent by following principles that take human limitations into account

Strategies to estimate accurate national statistics for death due to medical care:
- Death certificated should contain an extra field asking whether a preventable complication stemming from the patient's medical care contributed to the death.
- Hospitals should carry out a rapid and efficient indépendant investigation into deaths to determine the potential contribution of error
  - Standardized data collection and reporting processes are needed to build up an accurate picture of the problem

Notes from the documentary
- Public health emergency
- Hospital infections cause a lot of harm to their patients that could be preventable by methods already put in place like washing hands
- Operating on wrong body parts, left tools in the body, operating on worn body are all part of medical errors
- There is no system based interference
- Patient safety is not the number one priority in hospital
- Goal is zero harm not zero errors by preventing preventable harm, acknowledging errors and fixing them
- Tuning research, developing tools and training and studying reports to prevent medical errors. Better handling hand-overs from one doctor to another to really understand what the patient's condition is (training for detecting errors in a patient's hospital room like allergies, wrong infusion). Always ask urself what are the layers of prevention that have been missed in order to understand the error (Swiss cheese). It is also important to learn how to apologize to a patient and take the blame for any medical error that happened. Rating a hospital's safety is important to know how one can do better;
- It is a human response to want to cover up the medical error; some still feel that is it dangerous to talk about a mistake you did in fear that you will get punished; it is important to reward people for coming up and talking about their mistakes instead of covering it up; practice methods before doing them on a patient whose's life depends on it; checking list

before and after after surgery; level of fatigue of physician; create a system like the black box that records everything happening in a surgery room + procedure timeline where errors have been made during the surgery in order to improve any errors; theres machine that detect son how much you washed your hands and how well you did it;

Summary of lesson: The three leading causes of death in order are cancer, heart attacks and medical errors. Medical errors are a leading problem in the health care department that is often swept under the rug. Medical errors are now a public health emergency and they include anything from operating on the wrong body parts, leaving tools in the body after operation, hospital infections and wrong diagnosis or treatments. The goal is zero harm not zero errors by preventing preventable harm, acknowledging errors and fixing them. The medical community has been trying to improve this problem by getting inspiration from different industries; the aviation industry …. ; the food industry's health system grades every restaurant's cleanliness and puts the grade up for the public to see what quality of service are they getting.

MODULE 4 - ENGAGING IN PHYSICAL ACTIVITY FOR HEALTH, FITNESS, PERFORMANCE
Chapter 4 of manual

Physical activity: movements by skeletal muscles resulting in energy exenditure.
Physical literacy: motivation, confidence, physical competence, knowledge and understanding to value and take responsibility for one's engagement in physical activity. Physical activity and physical literacy go hand in hand.
*Physical activity is a key to health and a tool for disease prevention.
MVPA: moderate to vigorous physical activity.
Fundamental movement skills: different body parts.

15% of Canadian adults meet physical activity recommendations
- 7% children and adolescent are sufficiently active
- Males more active than females

Physical activity for health
There is evidence that proves the effectiveness of regular physical activity in the primary and secondary prevention of several chronic diseases (cardiovascular diseases, diabetes, cancer, hypertension, obesity, depression and osteoporosis).
- The recommendation for adults is to obtain at least 150 minutes of moderate intensity physical activity per week.
- There are health risks for individuals who not only meet the minimal physical activity requirement but spend the rest of their time in sedentary behaviour (sitting down for max 1h)

Physical activity for fitness
Exercise: a planned, structured and repetitive movements done to improve or maintain one or more components of physical fitness. *All exercise are activities but not all activities are exercise.

Physical fitness: a set of attributes that are either health or performance related. The health-related components allow you to perform moderate to vigorous intensity physical activity on a regular basis. Exercises for particular length of time at a specific intensity for a number times per week. The recommendation is 60 minutes per day.

Health-related components	Performance-related components
Cardiorespiratory endurance Muscular strength Muscular endurance Flexibility Body composition	Power Speed Balance Agility Reaction time Coordination

Physical activity for performance
Specific exercises and training are used to improve performance (power, agility, speed, coordination). It is the safest for those with a high level of fitness. Ex of type of exercise: plyometrics are exercises that contract muscles to increase power. Ex 2: interval training.

Benefits of regular physical activity
Improved cardiovascular endurance: enables the heart to pump more blood = lowering resting rate; improves the body's capacity to take in and distribute oxygen and it strengthens the muscles responsible for respiration.
- Reduced risk of heart disease
- Prevention of hypertension (lowers systolic and diastolic blood pressure)
- Improved blood lipid and lipoprotein profile (lowers LDL and raises HDL)

Improved bone health: maintain bone health and prevent osteoporosis fractures and osteoarthritis. The bone adapts to the mechanical stress put upon it which should exceed the level of stress it is adapted to.

Improved weight management: Sedentary behaviours and dietary intake are important for this part because they affect weight management a lot too. Physical activity has a direct impact on metabolic rate.

Improved quantity and quality of life: prevention of type 2 diabetes; increased longevity; improved immunity to disease

Improved mental health and stress management: Leads to psychological benefits by burning chemical by-products released by our nervous system during its normal response to stress. Elimination of these biochemicals reduces our stress response by accelerating the neurological system's return to homeostasis.

Improving cardiorespiratory endurance
Cardiorespiratory endurance: the ability of the heart, lungs and blood vessels to function efficiently. They deliver oxygenated blood to nutrients to our body tissues and remove carbon dioxide and other metabolic waste products.
Aerobic exercise: any type of exercise typically performed at a moderate to vigorous intensity for extended periods of time.
Aerobic power: the term used to describe the current functional status of the cardiovascular system and refers to the volume of oxygen consumed by the muscles during exercise.
Graded exercise test: test of aerobic capacity.

Cardiorespiratory fitness programs
1. Determining exercise frequency: training 3-5 times per week is the general recommendation for improving cardiorespiratory endurance.
2. Determining exercise intensity: moderate or greater intensity (70-90% of max heart rate).
   Target heart rate: (220 OR 226 - age) x %value
3. Determining exercise time: 20-30 minutes for a 70-90% max heart rate.
4. Determining exercise type: jog, run or swim for cardiorespiratory fitness.
5. Recovery: 18-24 hours of rest in between workouts.

Improving muscular strength and endurance
Musculoskeletal health: the combination of strength, endurance and flexibility and their influence on various components of health. It is associated to reduced risk for coronary heart disease and osteoporosis, as well as improved glucose tolerance.
Muscular strength: maximal amount of force a muscle is capable of in 1 repetition (1RM). One should only do 60% of their maximum muscular strength if working out often so they dont hurt themselves.
Muscular endurance: a muscle's ability to exert force repeatedly or to sustain a contraction without fatigue.

Principles of strength development to increase muscular strength and endurance
1. The tension principle: creating sufficient tension within a muscle by weightlifting.
2. The overload principle: creating tension in your muscles greater than one is accustomed to. Muscles become larger (hypertrophy), stronger and capable of generating more tension.
3. The specificity of training principle: manner is which a specific body system responds to the physiological demanded placed upon it.
4. The recovery principle: allow 48 hours fro the body to recover from and adapt to the resistance training undertaken.

Types of muscle contractions
- Isometric muscle contraction: no muscle movement, important for working on balance.
- Concentric muscle contraction: shortening of muscle.
- Eccentric muscle contraction: lengthening of muscle

Methods of providing resistance
- body weight resistance (using the body weight as resistance like push-ups)
- Fixed resistance (constant resistance)
- Variable resistance (effort by the muscle remains consistent)
- Accommodating resistance (constant speed thorough)

Getting started
- sufficient tension within a muscle = stronger
- Set specific training goals and strategies
- Strength training
  - Minimum one exercise per major muscle group
  - Intensity should be greater than 60% of IRM (maximum capacity of strength)
- Muscle endurance training
  - High repetition with lower resistance

Improving your flexibility
Flexibility: range of motion, amount of mouvement possible at a joint. It enhances efficiency of movement.

Types of stretching exercises
- flexibility enhanced by controlled stretching of muscles
- Static stretching: slow, gradual lengthening of muscles
- Recommendation: 4-7 times per week

**check in manual why people chose and dont chose to take supplements

Yoga, tai chi and pilates for flexibility
Yoga (originated in India about 5000 years ago): flexibility, vitality, posture, agility and coordination.
Tai chi: combines stretching, balance, coordination and medication.
Pilates: flexibility, agility, coordination, strength and economy of motion.

Body composition
- Relative portions of fat and lean tissue
- Body composition parameters
  - Total body mass
  - Etc on power point

Planning your physical fitness training program
Identify your physical fitness goal
- determine needs and set goals
- Select appropriate program, commit to it

Designing your physical fitness program
- 5-15 min warm-up and cool-down (helps facilitate proper recovery after work out)
- Cardiorespiratory endurance should be a significant part of your work out
- Resistance training
- Flexibility

Fitness-related injuries
Causes of fitness-related injuries
- overuse injuries: cumulative stress on body
- Traumatic injury: sudden and violent

Prevention
- Appropriate footwear (replace it regularly)
- Appropriate protective equipment (must fit well too) must be CSA verified

<u>Common overuse injuries</u>
- plantar fasciitis: inflammation of the tissus of the bottom of the foot (depends on shoe)
- Shin splints: pain, foot of lower leg
- Runner's knee: abnormal movement of kneecap

Treatments:
- RICE = rest, ice, compression and elevation
- Elevation of the injured extremity above the level of the heart helps to control internal or external bleeding by making the blood flow uphill to reach the injured area.

Exercising in the heat could lead to heat stress illnesses like heat cramps, heat exhaustion and even worse a heat stroke. Therefore it is important to acclimatize to the weather by avoiding dehydration, wearing appropriate clothing and using common sense.

Exercising in the cold leads to significant risks as well like hypothermia being a potentially fatal abnormally low core temperature. Preventing hypothermia includes analyzing weather conditions (ex: wind, humidity), using the buddy system, wearing appropriate layers and hydrating.

Your movement journey starts with a change in your physical literacy and activity. With time, it allows to understand your journey and helps to set you new goals.

Summary of lesson: Engaging is physical activity is crucial for health, fitness and performance. It's the key to a good health and a took for disease prevention. Unfortunately, most Canadians do not reach the required amount of physical activity recommendations.

MODULE 5 - EATING FOR OPTIMAL HEALTH AND PERFORMANCE
Chapter 5

Hunger is the physiological need to eat. Appetite is the psychological desire to eat. Dietary patterns around the globe are mediterranean, asian and western. In Canada:
- Nutrition is the physiological function of foods.
- Nutrients is the constituents of food that sustain us.
- Calorie is the energy obtained from food.

Eating well with Canada's food guide
Objectives of the new food guide:
- describes healthy and sufficient eating patterns
- Reduce risk of nutrition-related problems
- Support and maintain healthy body weight
- Reflects diversity of food available
- Awareness and understanding of healthy eating
- Importance of healthy eating, physical activity

The Canadian's food guide is age and sexe specific; there is a variety of foods; balances intake with a moderation of calorific intake.

The digestif process
Body: break food into usable form
- Mouth: chew food; salive, enzymes
- Esophagus: move food to stomach
- Stomach: mix food; add acid, enzymes
- Small intestine: receives enzymes from lives and pancreas

Nutrients are absorbed in small intestine into bloodstream to supply cells energy and building blocks. After absorption, the liver distributes most nutrients. The large intestine processes digestif waste. The digestive process takes approximately 24 hours.

The dietary reference intake vs recommended nutrient intake: DRI (dietary reference intake) help you avoid deficiencies, reduce disease risk and avoid overconsumption.

Obtaining essential nutrients
<u>Calorie:</u> energy in proteins, carbs and fats.

<u>Water:</u> DRI for males is 3.7 L; DRI for females is 2.7 L.

<u>Proteins:</u>
- major building block of every cell
- Functions: tissus development and repair (protection, regulation, transportation and balance)
- Most Canadians consume more than needed
- Key food groups: meat and alternatives
- Composed of amino acids
- Complete (high-quality): contain all essential amino acids
- Incomplete: lack 1+ essential amino acid(s)
- Plant: (incomplete) sources of protein = legumes, nuts and seeds, grain products, vegetables

Carbohydrates: circulates as glucose in the body
Simple carbohydrates (sugar):
- food source (fruits, vegetables and dairy)
- Monosaccharides and disaccharides
- Sweeteners (table sugar, syrups)
- WHO recommends less than 10% kcal from added sugars

Complex carbohydrates: starches and glycogen
- grains, cereals, various fruits and vegetables
- Most canadians do not eat enough
- Starches: pasta, rice, bread, potatoes and grains
- glycogen: stores in the body (muscle and liver)

Complex carbohydrates: fibre
- cleans digestive tract
- Types: soluble and insoluble
- Sources: fruits and vegetables, whole grains
- Recommendation: 25-38g per day
- Helps reduce cancer, heart disease and diabetes
- Select whole grains
- Choose foods with at least 2-3g of fibre
- Fruits and vegetables (eat peel)
- Eat legumes frequently

Fats:
- lipids, a concentrated form of energy
- Maintain healthy skin, isolate body organs
- Maintain body temperature, healthy cell function
- Carry fat-soluble vitamins
- Essential fatty acids
- 95% of total body fats are triglycerides and 5% are cholesterol
- Excess consumption increases risk of heart disease
- Eat less saturated and trans-fat (animal sources and processed foods)
- Eat adequate unsaturated fats (plant sources)
- Reducing fat in your diet
  - Read labels, nutrition info
  - Choose fat-free
  - Use healthy oils
  - Lean instead of processed meats

Vitamins:
- essential, organic compounds
- Fat soluble: absorbed with help of fat
- Water soluble: dissolves easily in water
- Very few canadians are deficient
- Needs met with food, supplements not required
- Antioxydants
  - Functional foods: foods for prevention and cure
  - Phytochemical: protect against cell, tissue damage
  - Cartenoids: red, orange pigment
- Vitamin D
  - Vital bone health
  - Sources: milk products and fish
  - Canadians at risk for insufficient vitamin D

Minerals
- inorganic, indestructible and air physiological processes
- Macrominerals are needed in large amounts
- Trace minerals are needed in small amounts
- Sodium: for regulation of blood, body fluids
  - Most canadians consume too much
  - Linked to hypertension and cardiovascular disease
- Calcium
  - Bone, heart, muscle contraction and fluid balance
  - Vitamin D, increases calcium absorption
  - Good sources are milk products and green vegetables
- Iron: iron deficiency = anemia causes fatigue (low hemoglobin)

Sex differences in nutritional needs
- different cycles, different needs
  - Women needs will vary (pregnancy)
- eating too much
  - Increases risk: colorectal prostate cancer
  - Increased fruit and vegetable intakes
    - Decreases risk: lung, esophageal cancer, stroke

Vegetarianism
Types of vegetarian diets:
- Vegans (no food of animal origin)
- Lacto vegetarians (dairy)
- Ovo vegetarians (eggs)
- Lacto-ovo-vegetarians (dairy and eggs)
- Pesco-vegetarian (seafood, dairy and eggs)
- Semi-vegetarians (poultry, seafood, dairy and eggs)

Eating well as a student
Fast foods: eating on the run
- ask for nutrition information on menus
- Limit mayo, sauces and otear add-ons
- Order salad and limit the dressing
- Limit fried food
- Choose water instead of soft drinks
- Chose Italian, Mexican, chinese, Japanese and Thai
- For breakfast, limit salt
- For sandwiches: reduce cheese and sauces
- For seafood: limit deep fried

Understanding nutrition and health claims
Examples of nutrient content claims: source of fibre, low fat, cholesterol-free, sodium-free, reduced in calories (light).

Healthy eating on a budget:
- do not shop when hungry
- Buy in-season fruits and vegetables
- Take advantage of coupons and specials
- She at discount food chains
- Plan ahead, maximize your dollar
- Cook large meals and freeze portions

Healthy eating in residence:
- ask if nutrient analysis conducted yet
- Tae results to food service provider
- Contact student services or student union
- Find out what other campuses are doing
- Use the cafeteria suggestion box

Food safety concerns
Food-borne illnesses:
- 11 million reported cases per year in Canada (most cases only last 1-2 days)
- Symptoms vary and may include cramping, nausea, vomiting and diarrhea

Actions that may reduce risks are: perishable food at end of shopping, clean salad bars (meat, seafood counters), seafood from approved sources, eat leftovers within 3 days and keep food in appropriate temperatures, cook fish until thickest part is opaque, refrigerate cooked food within two hours, thaw food in the refrigerator, clean hands, utensils when handling food.

Food additives are added to food to reduce risk of food-borne illnesses and spoilage. It enhances look, taste and nutrient value. They are regulated by health Canada like salt, sugar, nitrates, sulfites, artificial colours and hormones.

Food allergies is when the body overreacts to normally harmless proteins. The reactions may vary from hives and rashes, itchiness, diarrhea, nausea and death. Most common allergens ate soybeans, legumes, nuts, shellfish, eggs, wheat and milk. Food intolerance are imitate allergy symptoms but they do not involve the immune system.

Choosing organic foods (foods that are pesticide- and chemical-free) are Canadian certified (no synthetic pesticides) and are usually more expensive than non-organic foods. Also, their health impacts are unclear but purchasing locally grown products benefits the environment.

Locally grown foods (locavores = consuming foods grown locally) include farmers' markets, homegrown and independent foods. They have a smaller impact on the environment.

Genetically modified food crops (GM) is the insertion or deletion of genes into DNA. GM foods enhance production, improve colour or appearance, enhance nutrients. To date, they have no link to human health.

MODULE 6 - CANADA HEALTH CARE SYSTEM

In Canada, there is no such thing as “the Canadian health care system”. In fact, 10 provincial systems working in parallel. Minor differences between provinces (ex: cost, scheduled items, etc). It is joint operation of, and co-operation between provinces that allows us to speak about the ‘Canadian’ system. The system is the envy of many others (Americans particularly, Brits, Germans and other Europeans).

Six features of Western health care system (Torrance, 1987):
1. Heavy emphasis on curative medicine as enshrined in private practice and acute-treatment hospitals with little attention to sources of illness, prevention, public health or rehab.
2. Growth of specialization at expense of primary care.
3. Rigid division of labour that discourages
4. Creation of new sources of corporate profit + professional wealth from state-subsided care.
5. Intrusion of medical industry into range of problems previously considered outside its competence.
6. Fiscal crisis.

The development of the health care system in Canada: Weller and Manga (1983) identify 3 policy periods.
1. Benign neglect (up to 1945)
2. Shared cost agreements (1945-76)
3. Established program areas acts (1977)
4. Federal withdrawal (1900)

Benign neglect
- little government involvement
- Health a provincial responsibility with few exceptions (native Canadians, regulation of environment and food; radiation, veterans health)
- Public health a government concern (water, food quality; regulation of restaurants)
- Private health a private matter
- Rise of physician dominance through late 19th and early 20th century

1912 Canada medical act. It marked the turning point in the position of allopathic practitioners (physicians). Licensing of physicians others excluded chiropractors, natural paths, apothecary, midwifery. Proposed and spearheaded by Dr. Thomas Roddick (physician turned politician).

1920 Flexner report advocated rise of scientific biomedicine at expense of public health. It shaped curriculum of medical schools; affiliation with universities (legitimation). It radically changed medical education in both Canada and US. There were some successes (vaccination for polio, smallpox, etc). The insurance private, typically only middle-class easterners could afford it or had it offered to them. This fed flames of discontent in the west. Dirt 30s - rise of labour movements, pressure for improved living conditions and standards.

Shared cost arrangements:
Post WWII - prosperity and renegotiation of social contract in UK. Rise of welfare state establishment of NHS.
1947 - Saskatchewan - institues compulsory hospital insurance scheme.
1948 - National health program - compromised of 10 granting schemes for health surveys, public health care, tuberculosis, cancer, mental health, sexually transmitted diseases, crippled children and hospital construction.
1949 - joined by Alberta and BC
1958 - hospital insurance + diagnostic services act

Public insurance provided for services offered in hospitals but not for nursing homes, mental institutions, sanatoria, etc. Costs of insurance shared - feds paid 25% per capita and 25% of total (National) cost. Very popular, stopped barriers to access, defaulting on hospital bills, etc.
It raised the physicians' incomes but it institutionalized care = made it hospital based, acute focussed.

1962 - Saskatchewan extends insurance to cover all physicians services = doctors strike
1962-64 Emmet hall commission

This commission on health services made two recommendations (1) that government, in co-operation with the provinces, should introduce universal health care and (2) recommends universal health insurance criteria to be guided by 4 principles. The 4 principles are:

1. Public administration
2. Comprehensiveness
3. Universal coverage
4. Portability
5. Accessibility (added in 1984)

1966 - Medical care act

Implemented between 1968-72, it set the stage for universal health care insurance.
1977- established programs funding act

Financing of health care reorganized, direct tax transfers rather than % capita reimbursement. Funding too uncertain for provinces, too inflexible. Provinces reimbursed after payout, cash-flow problems (unforeseen costs for provinces with rapid population change). For feds the arrangement was too costly. New formulas agreed by provinces and Feds. But they had fears of erosion of underlying principles. User fees, extra billing.

Today - Federal withdraws

April 1990, Bill C-69 is now a law. Withdrawal of tax transfers from Feds for Health, Welfare and Education. Size of current Ont. deficit largely due to shortfall in transfer payments - all provinces hit hard by this. On the day the Feds announced cuts in transfer payments, Clyde Wells (NFID) announced closure of 200 hospital beds.

Canadian health act
The Canadian Health Act (CHA) is Canada's federal health insurance legislation. The provinces of Canada are constitutionally responsible for the admission and delivery of health care services. They decide where their hospitals will be located, how many physicians will they need, and how much money they will spend on their health care systems. The CHA established the criteria and conditions related to insured health care services.

The national standards - that the princess and territories must meet in order to receive the full federal cash transfer contribution under the transfer mechanism, that is, the Canada Health and Social Transfer (CHST). The aim of the national health insurance program is to ensure that all residents of Canada have reasonable access to medically necessary insured services without direct charges.

Requirements of the Act: The CHA contains 9 requirement that the provinces and territories must meet in order to qualify for the full federal cash contributions:
- 5 program criteria that applies only to insured health care services
- 2 conditions that apply to insured health care services and extended heath care services
- 2 extra-billing and user charges provisions that apply only to insured health care systems

CHA - the criteria

1. Public Administration: the provincial and territorial plans must be administered and operated on a non profit basis by public authority accountable to the provincial or territorial government. This criterion applies to the health insurance plans of the provinces and territories (not to hospitals or the services hospitals provide). The health acre insurances plans are to b administered and operated on a non-profit basis by a public authority, responsible to the provincial and territorial governments and subject to audits of their accounts and financial transactions.

2. Comprehensiveness: the provincial and territorial plans must insure all decimally necessary services provided by hospitals, medical practitioners and dentists working within a hospital setting. The health insurance plans of the provinces and territories mist insure all insured health services (hospital, physician, surgical-dental) and where permitted services rendered by other health care practitioners.

3. Universality: the provincial and territorial plans must entitle all insured persons to health insurance coverage on uniform terms and conditions. 100% of the insured residents of a province of territory must be entitled to in insured health services provided by the plans on uniform terms and conditions. Provinces and territories generally require that residents register with the plans tow establish entitlement.

4. Accessibility: the provincial and territorial plans must provide all insured persons reasonable access to medically necessary hospital and physician services without financial or other barriers. The CHA of 1984 added accessibility to make 5 principles. The health insurance plans fo the provinces and territories must provide: reasonable access to insured health care services or uniform terms and conditions, unprecluded or unimpeded, either directly or indirectly, by charges or others. Reasonable access in terms of physical availability of medically necessary services has been interpreted under the Canada Health Act using the where and as available rule. Thus, residents of a province or territory are entitled to have access to insured health care services at the settling where the services are provinces as as the services are available in that setting.

5. Portability: the provincial and territorial plans must cover all insured persons when they move to another province or territory within Canada and when they travel abroad. The provinces and territories have some limits on coverage for services provided outside Canada and may require prior approval for non-emergency services delivered outside their juridiction. Residents moving from on province or territory to another must construe to be covered for insured health care services by the home province during minimum waiting period, not to exceed three months, imposed by the new province of residence. After the waiting period, the new province or territory of residence assumes heath care coverage. Residents temporarily absent from their home provinces or territories, or from the country, must also continue to be covered for insured health care services.

CHA - the conditions

1. Information - the provincial and territorial governments are to provide information to the minister of Health as may reasonably required, in relation to insured health care services and extended health care services, for the purposes of the Canada Health Act.
2. Recognition - the provincial and territorial government are to appropriately recognize the fedela contributions toward both insured and extended health care services.

CHA - Extra-billing and user charges

The cost of the new plans were to be shared 50-50 by the federal and provincial governments. They were also to be shared in a way that would serve to redistribute income between the poorer and richer provinces.

1. Extra billing - this occurs if a physicians or a dentist directly charges an insured person for an insured service that is in addition to the amount that would normally be paid for by the provincial or territorial health insurance plan. Ex: if a physician were to charge patients 5$ for an office visit that is insured by a health insurance plan, the 5$ charge would be extra-billing.
2. User charges - these are direct charges to patients other than extra-billing for insured services of a province or territory's health insurance plan that are not payable, directly or indirectly by the health insurance plan. For ex: if patents were charged a free before being provided treatment at a hospital emergency department, the free would be considered a user charge.

Healthcare system

Publicly funded, privately delivered health care system. Best described as a interlocking set of ten provincial and three territorial health insurance plans. Known to Canadian as Medicare, the system that provides access to universal, comprehensive coverage for medically necessary hospital and physical services. The services are administered and delivered by the provincial and territorial (ex: state or regional) governments, and are provided free of charge. Also assistance from the federal (ex: national) government in funding. To receive their full allocation of federal funding for health care, the provincial and territorial health insurance plans must meet 5 criteria:

1. Comprehensiveness
2. Universality
3. Portability
4. Accessibility
5. Public administration

Comprehensiveness: the provincial and territorial plans must insure all medically necessary services provided by hospitals, medical practitioners and dentists working within a hospital setting. All insured health services provided by hospitals and medical practitioners be covered by the plan.

Universality: the provincial and territorial plans must entitle all insured persons to health insurance coverage on uniform terms and conditions. It should cover 100% of the total insured population.

Portability: the provincial and territorial plans must cover all insurance persons when they move to another province or territory within Canada and when they travel abroad. The provinces and territories have some limits on coverage for services provided outside Canada, and may require prior approval for non-emergency services derived outside their jurisdiction.

Accessibility: the provincial and territorial pals must provide all insured persons reasonable access to medically necessary hospital and physician services without financial or other barriers.

Public administration: the provincial and territorial plans must be administered and operated on a non profit basis by a public authority accountable to the provincial or territorial government.

MODULE 7 - Managing your weight and finding a healthy balance
Chapter 6

America has one of the highest obesity rate compared to the rest of the world.

Definitions:
Overweight - when you have a weight greater than expected for specific height.
Obesity - excessive accumulation of body fat leading to increased risk for health problems.

Health risks of obesity and overweight:
- Mental health - increased rates of depression and anxiety disorders
- Immune system - tendency towards more infectious diseases, reduced wound healing
- Cardiovascular system - high blood pressure; higher triglyceride levels leading to cardiovascular diseases
- Endocrine system - higher risk of type 2 diabetes
- Reproductive system - higher risk of sexual dysfunction; increased risks for reproductive system cancer
- Heart - dramatically increased risks for all forms of heart disease
- Respiratory system - increased risk of sleep apnea and asthma
- Digestive system - increased risk of cancer
- Bones and joints - higher risk in arthritis
- Atherosclerosis, coronary artery disease and hypertension
- Cancer, type 2 diabetes, gallbladder disease and osteoarthritis

Determining the right weight for you:
- Body Mass Index (BMI): relationship between weight and height
- Adult's BMI classification:
  - Less than 18.5 = underweight
  - 18.5-24.9 = healthy weight
  - More than 25 = overweight
  - More than 30 = obese (three classes of obesity)
- Women higher than men (genetics)

Assessing your body fat content:
- dual-energy x-ray absorption (DEXA)
  - Most precise one
- Hydrostatic weighting
- Air displacement plethysmography (ADP)
- Skinfold measurements
- Waist circumference
- Bioelectrical impedance analysis (BIA)
  - Not invasive and precise as well

<u>Managing your weight</u>
Keeping weight loss in perspective:
- Long term loss: difficult, requires support
- Lifelong approach: healthy eating, physical activity

What is a calorie:
- Measurement - energy from a food
- One kilogram of fat = approximately 7000 calories

Physical activity:
- Basal metabolic rate (BMR) - the metabolism's rate to complete the basic functions
- Resting metabolic rate (RMR) - includes the basic metabolic rate and energy consumed because of sedentary functions (sitting, drinking water, typing on computer)
- Thermic effect of food (TEF)

Recommendations:
- 60 minutes of moderate-intensity activity daily
- Cardiorespiratory, strength exercises, use large muscle groups

Is dieting healthy? No. The concerns of dieting are:
- More harmful than helpful to health
- Is rarely successful long term
- Adverse health conditions (metabolism, cardiovascular)
- Contributes to development of eating disorders

Improving your eating habits:
- Turn off distractions while eating (ex: TV)
- Include physical activity during breaks
- Chew food slowly
- Only eat when hungry; eat frequently

Improving your eating habits:
- Use smaller plates
- Make favourite foods inconvenient to eat
- Eat breakfast every day
- Drink water instead of soft drinks

Choosing to eat well:
- Seek help from a reputable source
- Avoid quick weight-loss programs
- Plans with choices (do not sacrifice enjoyment)

Miracle diets:
- Very low-calorie diets (VLCDs): health risks
- Ketosis: fat used as main fuel source

Low carbohydrate diet:
- Remember: different nutrients values amongst carbohydrates
- Glycemic load guidelines:
  - Chose plants; beans instead of meat
  - Eat nuts
  - Mix carbs with other foods
  - Choose whole grains
  - Regular physical activity

Trying to gain weight:
- Identify reasons weight gain is difficult
- Monitor your physical activity
- Eat and drink more often:
  - Nutrient-dense and high calorie foods
- Try to relax

Heredity and genetic factors:
- Body type and genes:
  - Endomorphy, mesomorphs and ectomorphy
  - Children of obese parents, increased risk of obesity
- Obesity genes?
  - Genetic predisposition: satiety, feeding behaviours
  - Obesity genes: thrift genes

Endocrine influences: the hungry hormones
- Less than 2% of obesity caused by endocrine problems
- Adaptive thermogenesis: calories = no weight gain
- Hormones ghrelin (makes u hungry), leptin (decreases appetite) they are influences by the lack of sleep, and GLP-1 (it slows the passage of food to intestine). They place a complementary role

Hunger, apetite and satiety:
- hunger, physiological response; appetite, learned response
- Satiety: feeling of fullness

Developmental factors:
- hyperplasia, an increase in cell numbers:
  - usually only in infamy and puberty
  - Increase with chronic positive energy balance
- Hypertrophy, an increase in cell size
  - May increase in size at any time

Metabolic rates and weight
- Influences on BMR
  - Age: infancy, puberty and pregnancy
  - Body composition
  - Self-protective situations (ex: fever, yo-yo dieting)
- Set point theory: body has a weight at which it is comfortable

Psychological factors:
- relationship: emotional needs and weight problems = uncertain
- Eating: focal point of people's lives
  - Major part of our socialization

Eating cues:
- problems associated with fast food:
  - High fat, calories, sodium and carbohydrates
  - Oversized portions, eaten completely
  - Eating quickly, no recognition of satiety

Dietary myth and misperception:
- people eat more than they think
- Obese individuals: less active

Lifestyle:
- Over than 85% of Canadians are classified as sedentary
- Cultural aspects: education system, work life
- Labour-saving devices, reduces activity levels
- Exercise viewed as work
- Need to increase active living

Weight bias includes a negative attitude which could be harmful to obese individuals. It could lead them to be socially isolated which is associated with a higher rate of depression, suicide and disordered eating. The people victim of weight bias have poorer psychological adjustment.

Thinking thin: body image disorders
- obsession with thinness not a recent phenomenon
- Women, pressured for generations to be thin
- Media reinforces thinness as a beauty ideal

Eating disorders consist of abnormal eating and making efforts to control weight. It includes any abnormal attitudes, body weight and shape.

A) Anorexia nervosa: obsessed with food, self-starvations and extreme exercising. It leads to many medical problems like damage to bones, muscles and body systems. 10-15% of people who are anorexic die.

B) Bulimia nervosa: binge eating then purging. It includes behaviour of self-induced vomiting and using laxatives to prevent calorie absorption. It affects 1-3% of adolescent and young females.

C) Binge eating disorder (BED): Includes compulsive binge eating without purge. No abnormal attitudes like dieting, body weight and shape. 30% of individuals who are overweight are affected of BED.

D) Eating disorder not otherwise specified (ED-NOS): It has an unclear diagnosis but it includes eating and body image problems. Behaviour includes purge after normal eating, chewing food repeatedly then spitting it out and binge eating and purging (but not regularly)

E) Disorder eating: includes and abnormal eating behaviours but not diagnosed clinically. Its anything that ranges between compulsive eating to habitual dieting.

F) Anorexia athletic: not a recognized diagnosis but it includes excessive exercising in order to control weight. They use powder, control and self-respect. The symptoms include exercise taking time from work, school and relationships, having self-worth based on performance an excessive exercise (fanatic about weight).

People who are at risk are the ones who want social approval or to gain control on their life over food. They coud suffer from other problems as well like clinic depressions alcohol abuse and other addictions. Keep in mind that there is no specific explanation for an eating disorder.

Threatening eating disorders are treated with an early diagnosis and treatment. It requires a multidimensional approach involving family and friends. It requires attention from someone showing concern. It may require hospitalization and psychotherapy. New ways to treat eating disorders are to handle stress and control life.

Tips to help someone with an eating disorder:
- Be patient and knowledgable
- Be compassionate and encouraging
- Be non judgmental
- Take care of yourself
- Do not take on role of therapist

Conversation guide: focus on feelings and relationships.

Creating a personal plan for achieving your healthy weight
The following suggestions may help:
- Design plan to meet your needs
- Chart your progress
- Chart your eating setbacks
- Be physically active
- Chart your physical activity (or lack of)
- Be aware of hunger and fullness
- Accept yourself
- Develop stress-management skills
- Get enough sleep
- Try not to get too hungry

Body image
Body image is the way you see yourself and your appearance. It includes how comfortable you feel about your body.
- A negative body image is a distorted perception of discomfort, shame and anxiety.
- A positive body image is the true perception of appearance and celebrating uniqueness.

Many factors that will influence body image:
A) the media and popular culture - disconnecting between idealized images and typical body
B) Family, community and cultural groups - parents will enhance or disrupt their children's body image
C) Physiological and psychological facts - possible link with the brain's ability to regulate neurotransmitters.

You can develop a more positive body image by challenging commonly held attitudes in society. There are four myths:
1. How you look is more important than who you are
2. Anyone can be slender and attractive (willpower)
3. Extreme dieting are effective weight-loss strategies
4. Appearance is more important than health

Some people develop body image disorders:
A) Body dysmorphic disorder (BDD) is the obsessive concern with appearance (distorted view) which perceives a lack of muscles, facial blemishes, etc.
B) Social physique anxiety (SPA); disproportionate time fixating on body. A lot of exercising that eco-centered and self-directed activities.

Disordered eating is the atypical behaviours to achieve a lower body weight (ex: pills, inducing vomiting, acute dieting) whereas eating disorder is a severe disturbances in body image and eating (clinically diagnosed).

Criteria for eating and body disorders

	Anorexia nervosa	Bulimia nervosa
Criteria	- not a normal body weight for one's height - Fear of gaining weight, becoming fat - Disturbance in body weight and shape	- binge eating which is behaviour to prevent weight gain at least once a week for 3 months - Self-evaluation has an influence on body shape and weight - Inappropriate compensatory behaviour
Effets on body	- Altered levels of neurotransmitters = depression, anxiety, fatigue, poor sleep, dizziness, fainting. - Levels of iron are very low - Kidney failure = dehydration + death - Decreased digestive activity = constipation, pain, bloating - Bone lose density = fracture easily - Muscle tissue loss - Hair is thin - Sin dry and discoloured - Heart disturbances - Infections are more likely	- Throat becomes more inflated and glandes become swollen and sore - Teeth pain, cavities, gum disease - Laxatives can cause rebound constipation - Pain and diarrhea - Stomach can enlarge and rupture or ulcers can bleed - Esophagus can become inflamed or rupture (stomach acid) - Altered brain chemistry = anxiety, dizziness, seizures

BED criteria is accosted to 3 or more of the following:
- eating much more rapidly than normal
- Eating until feeling uncomfortably full
- Eating large amounts when not hungry
- Eating alone due to embarrassment
- Feeling disgusted
- Marked distress regarding binge eating
- Binge eating over one a week for 3 months
- Binge eating not associated with compensatory behaviour

Some eating disorders are not easily classified since there is no diagnostic criteria but psychiatric illness, especially the eating disorder not otherwise specified (ED-NOS). The treatment for eating disorder are therapy (psychological, social, environmental and physiological). 20% of people with eating disorder die if they dont get a treatment. When they do get a treatment, recovery rates range from 44% to 76%.

Compulsive exercise called anorexia athletic is based on compulsive (not desire) like guilt and having anxiety if they dont exercise. It could lead to injuries in the joints, connective tissues, bones and heart. Often times, its their way to deal with anxiety or depression.

Muscle dysmorphia is when a person believes their body is insufficiently lean (muscle wise). They are constantly comparing themselves to others, checking mirrors and camouflaging. Individuals who have muscle dysmorphia are going to want to use steroids and supplements to enhance their muscles.

MODULE 8 - USING ALCOHOL, CAFFEINE AND TOBACCO
Chapter 10 in manual

Alcohol
78.4% of Canadians consume alcohol with beer being the most popular. Moderate consumption is associated with heart health. 10% report harm due to drinking (32.7% harmed by someone else's drinking. Cost of alcohol abuse is $14.6 billion in 2002.

Alcohol and post-secondary students
Most used, misused and abused recreational drug. 90% of students consume alcohol.
Binge drinking is a single sitting consists of 5 drinks for men and 4 for women.
Other consumptions include alcohol enemas (from anus) or vodka tampon.

Rights vs responsibilities
Many refuse to acknowledge alcohol as a drug.
Society condones consumption and inform people about drinking responsibly.
Often, students's words and actions are affected by drinking especially if excess consumption is the norm.

Drinking guidelines (per week) are:
Men - maximum 14 standard-sized drinks (30% report they exceed the guidelines).
Women - maximum 9 standard-sized drinks (15% report they exceed the guidelines).
Maximum of 2-3 drinks per day (women, men).

The production of alcohol
Ethyl alcohol or ethanol, fermentation, distillation and proof (measure of the percent of alcohol).

Physiological and behaviour effects of alcohol
Behaviour effects:
- Effects vary with setting and individual
- Blood alcohol concentration (BAC) is the ratio of alcohol to total blood volume
- Some can develop learned behavioural tolerance which means to be able to modify behaviour by appearing sober with a high BAC

BAC	Psychological and physical effects
Not impaired	
Less than 0.1%	Negligible.
Sometimes impaired	
0.01%-0.04%	Slight muscle relaxation, mild euphoria, slight body warmth, increased sociability and talkativeness.
Usually impaired	
0.05%-0.07%	Lowered alertness, impaired judgment, lowered inhibitions, exaggerated behaviour and loss of muscle control.
Always impaired	
0.08%-0.14%	Slowed reaction time, poor muscle coordination, short-term memory loss, judgement impaired and inability to focus.

0.15%-0.24%	Blurred vision, lack of motor skills, sedation, slowed reactions, difficulty standing and walking and passing out.
0.25-0.34%	Impaired consciousness, disorientation, loss of motor funtion, severely impaired or no reflexes, impaired circulation and respiration, uncontrolled urination, slurred speech and possible death.
0.35% and up	Unconsciousness, coma, extremely slow heartbeat and respiration, unresponsiveness and probable death.

Absorption and metabolism
Factors that influence absorption:
- The amount of alcohol consumed in a given time
- Size, sex, body build and metabolism
- Type and amount of food in stomach
- Mood

Women have a higher percent of body fat which increased BAC and they have less enzymes to break down alcohol. Ways to test one's alcohol levels are through a breathalyzer and other tests.

Immediate effects are:
- central nervous system depressant, diuretic
- Water pulled from cerebrospinal fluid = dehydration
- Irritant to gastrointestinal system
- Hangover (caused by congeners)

Effects can be more prominent when alcohol interacts with other drugs.

Long term effects are:
- effects on the nervous system
- Cardiovascular effects
- Liver disease (cirrhosis and hepatitis)
- Cancer and other effects (inflammation of pancreas, decreased nutrient absorption)

Fetal alcohol spectrum disorders (FASD)
- Alcohol during pregnancy: lead to developmental and cognitive disabilities
  - Fetal alcohol syndrome (FAS)
  - Fetal alcohol effects (FAE)
- FASD leading cause of developmental delay (1-6 every thousand births)

Drinking and driving
Impaired driving is the major cause of death behind wheels. There is about 1350 Canadians killed annually but there are many more injuries.

Alcoholism
Interferes with work, school, relations which violated the law.
- 6.2% binge drinking, over one time per week
- Men between 20-35 are most likely to binge

Most common areas affected are physical, financial and social health.

Addiction comes with tolerance, dependance and withdrawal. It is usually caused by chronic use over time. Any one can have an alcohol addiction at any time of their life. There's a 10% change of addiction to alcohol with women being the fastest-growing group addicted.

Causes of alcoholism include
- Biologic and family factors
  - Type 1 alcoholics:
  - Type 2 alcoholics:
- Social and cultural factors
  - Peer pressure, emotional or social problems
  - Family attitudes, social factors (ex: urbanization)

Recognizing your alcoholism is the first step. The following questions will help determine if you should be concerned:
- Needed to cut down on drinking?
- Annoyed by criticism of your drinking?
- Felt guilty about your drinking?
- Felt need to drink in the morning?

If the answer is yes to 2+ of the questions, you may have an alcohol disorder.

Alcoholism can have an effect on your family too like causing a dysfunctional family. Children can also assume 1+ of the following roles like family hero, scapegoat (person blamed for the wrongdoings), lost child or mascot.

Alcoholism also has an effect on society by making over 20$ billion in sales (2011) and employing a bit less than 14000 people. An average Canadian spends 712.40$ annually.

More women are drinking than men, there are almost as many alcoholics as men. Alcoholism starts later for women but progresses more quickly. They receive less support for treatment and recovery (more likely prescribed mood-altering drugs).

Recovery
The family's role in recovery is to intervene (planned confrontation) by expressing their concerns. There are also treatment programs for alcoholics like residential, outpatient, detox and crisis centres.

Recovery comes with various withdrawal symptoms like convulsions, agitation, depression, seizures and delirium tremens. Withdrawals are very difficult and medically risky.

Treatment programs include family, individual and group therapy. There are also other types of treatments like drug and aversion therapy or alcoholics anonymous (AA). Brief interventions (less than 5 minutes).

Relapses are at a rate of 60% is the first 3 months.

Smoking
Facts:
- in 2020, tobacco will kill the most people
- Canadians have been smoking since 1966
- Number one preventable cause of death
- Kills x5 more than car accidents, murder, suicide and alcohol.
- Total of 17% of all deaths

Tobacco can be consumed through cigarettes, cigars, pipes, snuff and chewing tobacco. Smoking is the most common form of tobacco which includes nicotine ad over 5000 chemicals. Those chemicals are condense on lungs and form tar. The carbon monoxide inhaled is 800x higher than safe levels.

The physiological effects of nicotine are:
- Stimulates central nervous system, adrenal glands
- Increases heart rate and respiratory rate
- Constricts blood vessels = increased blood pressure
- Reduces appetite

Smoking is a learned behaviour. It has a perception that smoking is normal. 85% start before the age of 16. Tobacco promotions are aimed at youth, especially young women. The perceptions are: desirable, socially accepted, healthy and sexy.

Smokeless tobacco is as addictive as cigarettes and it has more nicotine as cigarettes. Leukoplakia are a leathery white patches inside mouth. It imparts smell and taste which leads to overeating. It also causes dental problems like receding gums, tooth decay and discoloured teeth.

Environmental tobacco smoke includes type types; mainstream and secondhand smoke. Passive smokers are caused from someone else's smoking which can also lead to lung cancer and heart disease. Children are at a greater risk of respiratory problems. Secondhand smoking problems are the reason why smoking is illegal in many public places.

Quitting smoking
Breaking a nicotine addiction is one of the toughest addictions to stop. At first it causes irritability, restlessness and intense cravings of tobacco.
Nicotine replacements products are a way to stop smoking which include patches or even chewing gum.

Breaking the habit can start with antismoking therapy such as aversion therapy (causing a strong feeling of dislike and disgust).

The benefits of quitting are:
- body repaires immediately: more energy, better sleep
- After 1 year, risk for lung cancer and stroke decrease
- After 10 years, live a normal life span

Caffeine
Most widely consumed drug in Canada with an average of 210-238mg/day. Caffeine levels vary with product.

Effects are insomnia, irregular heartbeat, dizziness, nausea and indigestion.

Caffeine addiction is to avoid let down by drinking more. This develops dependancy (caffeinism). Coffee withdrawal may cause severe headaches. Energy drinks are also powerful stimulants, are available is a variety of sized with various levels of caffeine, sugar and calories.

The health consequences of long-term caffeine use
Linked to: heart disease, cancer and mental dysfunction. Birth defects and high LDL.
Okay moderation is less than 3 cups/day. People with heart conditions should be careful because it can cause an irregular heartbeat.

MODULE 9 - USE, MISUSE, ABUSE AND ADDICTION TO DRUGS

Name**	How it works**	Effects**	How to tell if someone has been using it	About the drug
Cocaine Snorting Smoking Injecting Type: stimulant	It affects the brain, makes you very energetic and alert.	Increased: heart, breathing, blood pressure. Fatigue, convulsions, twitching and paranoia, loss of appetite. The high is followed by a crash. Cocaine-affected babies: miscarriage, premature birth.	It reaches blood in 1 min, and 5 min in brain when snorted. It reaches brain in less than 5 mins when injected.	Freebase cocaine: Pure base - remove hydrochloride salt Dangerous, quick intense high (water pipe). Crack: Street name for freebase cocaine. These rocks are smoked (5x stronger).
Amphetamines (meth) Snored Smoked Injected Type: stimulant	Strongly activates brain's reward centre and causes the chemical release of pleasure.	Increased: physical activity, alertness and decreased appetite Long-term: dependance, psychosis, paranoia, aggression.	High lasted only a couple minutes when injected and up to 8 hours when smoked.	Methampheta-mine: Potent Long-acting Addictive Ice is a certain type of meth that has no sent and lasts 12 hours.
Marijuana (the most used drug) Smoked Sativa or indica	THC is absorbed into bloodstream to bind to canabis receptors and produce effects.	Dependance, increased cancer risk, irritated respiratory system and reduced motivation. Coughing, dry mouth, increased appetite, anxiety (sometimes).	Effects are felt in 10 mins and effects wear off in 3 hours. Weed-affected babies: premature, defected, affects their nervous system.	Tetrahydrocannabi nol (THC) has psychoactive substance. Hashish: derived from thick, sticky resin which has high conc of THC.
More about marijuana: Medical marijuana is used to control nausea and vomiting (chemotherapy); reduces loss of lean muscles (AIDS), reduces muscle pain, spasticity (multiple sclerosis), receives eye pressure (glaucoma). Two people eligible for medical marijuana: category 1 (treatment of any symptom relatedly a specific medical condition) and 2 (symptoms associated to a medical treatment). Marijuana and riving is illegal because is reduced the ability to react and perception.				

Opiates Type: depressant	Heroin addiction: tolerance, withdrawal symptoms. Changes the way you experience pain = numb.	Causes drowsiness, receives pain and induces euphoria. Lowers heart rate, respiration and blood pressure.	Treatments: methadone (synthetic narcotic, it blocks the effects of opiates) Controversial cuz it can cause a potential addiction). High rate of relapse.	Narcotics: derived from opium Types: morphine, cocaine, heroin and black tar heroin.
Psychedelics (mushrooms, LSD) Type: hallucinogen.	Alter perception.	Alter feelings, perceptions, thoughts. Capable of creating auditory, visual hallucinations.	Small doses: depressant.	LSD (lysergic acid diethyl amide): tables, acid. Mescaline: from peyote cactus. Psilocybin: magic mushrooms.
Designer drugs	Structural analogues of more familiar drugs.		Mimics psychoactive effects of controlled drugs.	Ex: ecstacy (stimulant).
Steroids	Anabolic steroids: artificial forms of testosterone.	Promotes muscle growth and strength.	Causes psycho withdrawal once it si stopped.	Ergogenic drugs: enhance athletic performance.

Drug use: taking drugs as intended
Drug misuse: taking drug not prescribe
Drug abuse: excessive use of drug

Individual response: set and setting
- response to drugs is influenced by
  - One's internal environment (set)
  - Total external environment (setting)

Defining addiction
Addiction: persistent dependence on behaviour and substance.

Aspect of addiction include:
- Excessive use of substance and behaviour
- Persistent desire to reduce, control use
- Frequent incapacitation due to use
- Substance, behaviour: to avoid withdrawal symptoms

The physiology of addiction:
- Neurotransmitters influence receptor cites (nerve cells)
- Tolerance: larger dose, to obtain desired effects
- Withdrawal: drug causes an effect the body creates by itself

The addictive process:
- Nurturing through avoidance: maladaptive emotionally
- Behaviours or drug on longer pleasurable. However, it is still preferable to unhappy reality

The signs of addiction: compulsion, loss of control, negative consequences, denial.

Addictive behaviours

Type of addiction	What it includes
Gambling	Video lottery terminals: role in gambling problems. More men than women: increased among students. Unable to control urge to gamble.
Shopping and borrowing	Excessive spending on purchases. Easy credit (companies targeting students). Gambling, shopping can lead to compulsive borrowing.
Exercise addiction	Exercise, a powerful mood enhancer (addictive). Needs: nurturance, intimacy, self-esteem and self-competency.
Technology addiction	Risk of overexposure has grown: phones, video games and social media. 1/8 internet users will experience internet addiction.

Managing an addiction
Intervention: planned process of confrontation
- By significant others; break denial compassionately
- Individuals see destructive nature of addiction

Forms of therapy
- Individual, group or family with a 12-step process (alternatives)

Drug dynamics
Drugs attach to receptors sites (body)
Receptor sites: specialized proteins (all cells)
Cells and tissue have different receptors (different drugs, different effects).

Drugs are swallowed or smokes. Once in bloodstream, chemicals attach to receptor sites in various part of the body. Steps to drug breakdown:
1. Drug is introduced
2. Drug circulates to specific receptor sites.
3. Drug attaches to specific receptor sites.
4. Liver breaks down drugs circulating in bloodstream.
5. Drugs at receptor sites dissipate.
6. Lungs, bowels, skin and kidneys excrete chemicals metabolized by the liver.

Type of drugs
- Psychoactive drugs: alter moods or behaviours.
- Prescription drugs: only prescription from physician.
- Recreational drugs: used to relax, socialize
- Over-the-counter drugs: purchased without prescription.
- Herbal preparations: substances of plant origin (believed to have medical properties)
- Illicit: possession, cultivation, manufacture and sale (illegal).
- Commercial preparations: chemical substances with drug action

Routes of administration of drugs: the way in which a drug is taken into the body

- oral ingestion
- Injection: intravenous, intramuscular, subcutan
- Inhalation
- Inunction
- Suppositoires

Drug interactions:
- Synergism: interaction 2+ drugs, effects are magnified
- Antagonism: one drug blocks another
- Inhibition: one drug eliminates affects of another
- Intolerance: 2+ drugs, together produce uncomfortable reactions
- Cross-tolerance: tolerance carries to another drug

Prescribed drugs
- Antibiotics
- Sedatives
- Tranquillizers
- Antidepressants
- Amphetamines
- Analgesics

Use of genetics drugs:
- genetics rugs : sold under chemical, not brand, name
- Contain same active ingredients
- Controversy surrounding effectiveness

Types of OTC (over-the-counter) drugs
Analgesics: prostaglandin inhibitors
Cold, Cough, allergy and asthma relievers
- expectorants
- Antitussives
- Antihistamines
- Decongestants
- Anticholinergics

Types of OTC drugs:
- Stimulants
- Sleeping aids and relaxants
- Dieting aids: laxatives or diuretics
- Inhalants

Different types of drugs have different effects on our bodies
Most drugs can be broken down into 3 categories:
- Stimulants: drugs that make the user hyper and alert.
- Depressants: drugs that cause a user's body and mind to slow down.
- Hallucinogens: drugs that disrupt a user's perception of reality and cause them to imagine experiences and objects that seem real.

MODULE 10 - UNDERSTANDING ILLICIT DRUGS
Chapter 11

Illicit drug: Illegal to posses, produce and sell.

Why individuals use illicit drugs:
- Age, sex, genetic background, culture and education.
- Physiology, personality and expectations.

It is used worldwide, 153-300 million used in the past year (men more than women).
In Canada, the Provence with the biggest consumption are British Columbia, Alberta and NS.
Canadians between 15-24 are 5x more susceptible to use illicit drugs. Social policies affect drug use.

Anti-drug programs : multidimensional approach.
People with drug problem usually think they can control their use.

Harm reduction:
- supervised injection sites so drug users can inject drugs
- Controversial: supervision of health-care provider

Sleep serves two biological purposes
- It conserves body energy
- It restores you physically and mentally
  - Certain reparative chemicals are released
  - Brain is cleaned of daily minutiae
  - Learning is synthesized
  - Memories are consolidated

Sleep maintains physical health:
- helps maintain immune system
- Helps reduce risk of cardiovascular disease
- Contributes to healthy metabolism

Sleep affects your ability to function
- Contributes to neurological functioning
- Improves motor tasks

Sleep promotes psychological health
- some parts of brain: only rests during sleep (ex: cereal cortex)
- More stressed, sad when sleep deprived
- Poor sleep: triggers depression, anxiety disorders.

Circadian rythma 24-hour cycle
- controls: sleep, wakefulness and habitual behaviours
- Regulated by melatonin: hormone that induces drowsiness

Sleep: readily reversible state of reduced responsiveness
- To, and interact with, the environment.

There are two primary sleep states:
NREM: the none rapid eye movements
REM: rapid eye movement

Non-REM sleep is restorative:
- a state: no rapid eye movement
- Passes through 4 different states
  - Stage 1: drifting into sleep
  - Stage 2: in a deeper state
  - Stage 3: delta waves are slow, BP and HR drop
  - Stage 4: deepest stage of sleep

REM sleep is energizing:
- REM sleep increases during the night
  - Non-REM sleep diminishes
- Dreaming takes place during REM sleep
- Brain wave activity; muscles are paralyzed
- Brain consolidates information learned that day

Sleep need includes baseline plus debt:
- on average, about 7-8 hours, each night
- Sleep debt: total hours of missed sleep

Do naps count: naps cannot cancel debt. They can improve mood, alertness and performance. Sleep inertia: cognitive impairment, grogginess and disoriented feeling. Occurs after 30 mins of napping.

How can you get a good night's sleep?
- Let there be light, stay active.
- Sleep tight, create a sleep cave.
- Condition yourself into better sleep.
- Make your bedroom your mental espace.
- Breathe, do not toss and turn.
- Get rid of technology in bedroom.

To prevent sleep problems, avoid these behaviours:
- Avoid late afternoon nap (max 30 mins)
- No strenuous activity, several hours before.
- Avoid reading, TV, eating, smoking in bed
- Do not sleep if starving or if full.
- No caffeinated beverages, several hours before
- No alcohol, several hours before bedtime
- No large liquids before bed
- Avoid sleeping pills, pain medications (unless prescribed)
- Avid triggers

5% students diagnosed, in treatment for disorders.
During a sleep study: sensors and electrons record brain activity to determine nature of sleep problem.

Insomnia: difficulty falling asleep, frequent arousals during sleep, early morning awakening and daytime sleepiness. Causes: stress, disruptions in circadian rhythms and medication.

Most popular sleep-related difficulty among adults 20 years old and older is concentrating on things, remembering things and working on hobbies.

Treatment for insomnia:
- cognitive behavioural therapist can assist patient.
  - Identify thought, behaviours that cause sleeplessness
- hypnotic, sedative medication may be prescribed
- Relaxation techniques: you and meditation

Sleep apnea:
- Breathing briefly, repeatedly irrupted during sleep
- Central sleep apnea: brain-respiratory system disconnect
  - Breathing is not initialed
- Obstructive sleep apnea: more common
  - No air movement in nose or mouth

Restless leg syndrome (RLS)
- Neurological disorder: unpleasant sensations at rest
  - Urge to move to relieve sensations
- Symptoms: from uncomfortable to painful
  - Cause of RLS is unknown
- Treatments: medications, decrease tobacco and alcohol use
  - Also, applying heat and stretching exercises

Narcolepsy:
- Excessive, intrusive sleepiness
- Narcoleptics: reduction in nerve cells containing hypocretin
  - Plays a part in sleep regulation
- Likely a genetic basis for disorder

MODULE 11 - CONSIDERING YOUR REPRODUCTIVE CHOICES
Chapter 8

Managing your fertility
Fertility: a person's ability to reproduce.
Technology: more control, responsibility over fertility.
Conception fertilization of ovum by sperm.
Contraception: methods of preventing conception.

Reversible contraception
- Abstinence and outercourse
  - Abstinence: not engaging in intercourse
  - Outercourse: oral-genital sex, mutual masterbation
- Condom
  - Birth control: barrier to STIs
  - Typical-use effectiveness rate: 85%
- Oral contraception: progestin-only pills
- Birth control patch (Orhto-Evra)
- Depo Provera: NuvaRing
- Emergency contraceptive pills
- Foams, suppositories, jellies and cream
- Female condoms
- Diaphragm with spermicidal jelly or cream
- Contraceptive sponge; cervical cream
- Intrauterine device (IUD)
- Withdrawal

Oral contraceptives for men
- Slow development: difficulty manufacture and release of sperm
- Side effects: diminishes sex drive, impotence
- Gossypol, ultrasound: methods under investigation

Fertility awareness methods (FAM)
- Alteration or abstinence of sexual behaviours: based on the women's s cycle
- Cervical mucus method
- Body temperature method
- Calendar method

Permanent contraception
Female sterilization:
- Tubule ligation: cutting, typing (fallopian tubes)
- Hysterectomy: removal of uterus

Male sterilization:
- Vasectomy: cutting, cauterizing, tying (vasa deferentia)
- Does not affect sexual performance

Abortion
- Abortion: medical terminating of pregnancy
- Abortion is legal in Canada
- Payment of abortion is debated: covered by insurance (performed in hospital)
- 64641 abortions performed in 2010: highest in Ontario, lowest in PEI

Methods of abortion
- Vacuum aspiration (most common, relatively low risk)
- Dilation ad evacuation (DE), dilatation and curettage (DC)
- Hysterectomy: removal of the fetus, surgically
- Prostaglandin or saline induction abortions

Planning pregnancy
- Emotional health
- Maternal health : preconception care
  - Physical activity, healthy diet and weight management
  - No smoking, alcohol or illicit drugs
  - Reduce or eliminate caffeine
  - Reduce exposure to environment chemicals
  - Dental health and regular check-up
- Paternal health
  - Sperm damaged: poor diet, chemicals and smoking
  - Influence down syndrome, Klinefelter syndrome and Prader Willi syndrome
- Financial evaluation
- Contingency planning
- Decision making about unplanned pregnancy

Pregnancy
- Prenatal care
  - Importance of regular check-ups
  - Choosing a practitioner: obstetrician gynaecologist, family practitioner and midwife

Alcohol and drugs
  - Avoid all drugs, except those prescribed
  - Fetal alcohol spectrum disorder (FSAD)
  - X-rays: avoid if possible, may cause birth defects
  - Nutrition and physical activity
    - Additional nutrient needs (ex: proteins, vitamins and minerals)
    - Regular, moderate intensity exercise = positive outcomes
  - Other factors:
      - Avoid toxins, heavy metals, pesticides and gases
      - Toxoplmosis: cat feces, harmful organisms
      - Get tested for rubella, genital herpes

A woman's reproductive years
- Quality of eggs decline age 35
  - Miscarriage and birth defects rise
- Down syndrome: most common (older mothers)

Pregnancy testing
- Measure human chorionic gonadotropin (hCG): hormone produced during pregnancy

The process of pregnancy
1) Early signs of pregnancy
   - Breast tenderness
   - Extreme fatigue
   - Sleeplessness
   - Emotional upset
   - Nausea, vomiting
2) The process of pregnancy
   a) First trimester
      - Embryo: fertilized egg to end of 2nd month
      - Fetus: start of 3rd month until birth
   b) Second trimester
      - Physical changes in mother more visible
      - Placenta well establishes
   c) Third trimester
      - Greatest growth in fetus
      - 85% of mother's calcium and iron goes to fetus
      - Fetus may live if born in 7th month

Parental testing and screening
- Amniocentesis: analyzes amniotic fluid for genetic abnormalities
- Ultrasound: determines size and position of fetus by using high-frequency waves
- Chorionic villus sampling: tissue from fetal sac which is useful for couples (risk for Down)

Childbirth
- Where to have your baby
- Labour and delivery
  - Breaking of the water
  - Amniotic sac breaks, contractions dilate cervix
  - Expulsion
  - Contractions push fetus through birth canal
  - Placenta expelled from the womb
- Prenatal education
- Drugs in the delivery room
- Breast-feeding and the postpartum period
  - Colostrum: contains vital antibodies
  - Breastfeeding is strongly recommended which offers perfect nutrition, fewer illnesses, allergies and less obesity
  - Postpartum period (4-6 weeks): postpartum depression

Complications
a) Caesarean section (C-section) is the surgical procedure to remove baby. The recovery usually takes longer.
b) Miscarriage happens in 10% of pregnancies. The reasons include problems (eggs, mother), Rh factor or ectopic pregnancy.
c) Stillbirth is when a baby is born dead for no apparent reason. The highest rate is in women ages 25-29.

d) Sudden infant death syndrome (SIDS) is when an infant under 1 year of age died for no apparent reason. There are multiple risk factors and steps to decrease risk.

Infertility
Infertility is common in 1 of 6 couples (difficulty conceiving).
Causes in women:
- pelvis inflammatory disease (PID)
- Endometriosis

Causes in men:
- Low sperm count: mumps virus
- Varicose veins above testes

Treatment:
- 30-70% success, depending on cause
- Extensive tests for men and women
- Various treatments available
  - Surgical and hormonal attempts
  - Fertility drugs (side effects)
  - Alternative insemination
  - In vitro fertilization
  - Gemete intrafallopian transfer (GIFT)
  - Nonsurgical embryo transfer
  - Embryo transfer
  - Embryo freezing
  - Surrogate motherhood

Sexually transmitted infections (STIs)
STIs were previously called STDs.
The infection rates are rising, especially in universities.
Alcohol is a factor to current rise in STIs.

Reduce risk of contracting STI:
- Avoid casual sexual partners
- Always use latex condom, dental dam
- Discuss sexual history
- Avoid injury to blood during sex
- Avoid semen, blood or vaginal secretions (it penetrates mucous membranes, breaks in skin)
- Avoid using drugs and alcohol
- Wash hands before and after sex
- Total abstinence: only absolute way of prevention
- Think and plan to avoid risks
- Get tested so you dont risk others

Communicating with your partner about STIs
The following can help open lines of communication:
- Responsibility to disclose STI status
- Be direct and honest before sex
- Discuss sexual activity, pregnancy and STI prevention without sounding defensive or accusatory

- Encourage your partner to be honest and share their feelings
- Analyse beliefs and values (ahead of time)
- Have a plan (if partner disagrees)
- Ask questions aout past history
- Discuss the significance of monogamy

Complications of STIs: PID in women, Epidimyitis in Men
Up to 40% develop pelvic inflammatory disease (PID).
Symptoms of PID vary but generally include:
- Lower abdominal pain and fever
- Unusual vaginal discharge, painful intercourse
- Painful urination, irregular menstrual bleeding

Vague symptoms: delay seeking medical care
- Potential permanent damage, scarring
- Can lead to infertility, ectopic pregnancy

Epididymitis: inflammation of epididymis is most common in young men ages 19-35.
Symptoms can include:
- Bloody semen, swollen groin area
- Discharge from the urethra
- Discomfort in lower abdomen, pelvis
- Pain during ejaculation or urination

Treatment: pain and anti-inflammatory medications

MODULE 12 - REDUCING RISK OF CARDIOVASCULAR DISEASE AND CANCER
Chapter 12

Cardiovascular disease (CVD):
Leading cause of death world wide.
- Various reasons for decline of CVD rate:
  - Advances in medical techniques
  - Better diagnostic for procedures and treatments
  - Better emergency assistance programs
  - Better training (CPR)
- 80% of premature deaths, prevented through:
  - Healthy dietary intake
  - Regular physical activity
  - Avoiding tobacco
  - Maintaining weight

Cardiovascular system:
- System comprising heart, lungs and blood vessels
- Transports nutrients, oxygen, hormones and enzymes
- Regulates temperature, water and acidity levels

The heart:
- Four chambers (2 atria, 2 ventricles)
- Valves regular flow of blood
- Sinoatrial node, a natural pacemaker
- Average of 70-80 beats per minute
- Healthy heart = more efficient

Steps in function:
- Deoxygenated blood enters right atrium
- Travels to right ventricle
- Travels pulmonary artery to the lungs
- From lungs to left atrium
- Into left ventricle, then through aorta

The blood vessels
- Arteries carry blood away from heart except pulmonary arteries
- Arteries branch into smaller blood vessels: arterioles and capillaries
- Veins carry blood back to heart: carbone dioxyde, waste to lungs and kidneys

Types of cardiovascular diseases

Atherosclerosis:
- Type fo atherosclerosis: narrowed, hardened arteries
- Fatty substance (plaque) lines the arteries: partially or totally block blood flow
- Affected by
  - Fluctuations in blood pressure
  - Elevated blood cholesterol, triglycerides and glucose
  - Cigarette smoking

Coronary heart disease:
- The major disease of cardiovascular system
- Blockage: one or more coronary arteries = impeding blood flow
- Myocardial infraction (MI) or heart attack
- Brough on by coronary thrombosis
- Collateral circulation: damaged heart may heal
- Angina pectoris: severe chest pain due to reduced oxygen to heart
- Ischemia: insufficient blood flow, decrease oxygen. Treatment:
  - Affects blood supply to heart or heart's demand for oxygen

* Important to know warning signs

Stroke:
- Blood to brain is severely reduced or cut-off
- Causes:
  - Thrombus (blood clot)
  - Embolus (a wandering clot)
  - Aneurysm (weakened vessel = bulge or burst)
- Transient ischémie attack (TIA)

Hypertension:
- CVD: risk factor for CHD, stroke
- Chronic high blood pressure (140/90 mmHg or higher)
- Essential (most common) or secondary hypertension
- Systolic pressure and diastolic pressure

Blood pressure classifications

Classification	Systolic reading (mmHg)		Diastolic reading (mmHg)
Normal	Less than 120	And	Less than 80
Prehypertension	120-139	Or	80-89
Hypertension			
Stage 1	140-159		90-99
Stage 2	Greater than or equal to 160	Or	Greater than or equal to 100
Hypertensive crisis	Greater than or equal to 180	Or	Greater than or equal to 110

Arrythmia, congestive heart failure and congenital and rheumatic heart disease:
- Arythmia: irregular heartbeat
- Congestive heart failure: damaged and overworked heart
- Congenital heart disease: present at birth
- Rheumatic heart disease: streptococcal infection (throat)

Controlling your risks for cardiovascular diseases

Risks you can control	Risks you cant control
- High blood pressure - Blood fat and cholesterol levels - Cigarette smoking - Physical inactivity Obesity: - Diabetes - Individual response to stress	- Hereditary - Sex - Age - Ethnicity

Women and cardiovascular disease

Risk factors for heart disease in women:
- Premenopausal: unlikely, except with risk factors
  - Diabetes, high blood pressure
  - Kidney diseases
  - Genetic predisposition to high cholesterol
  - Family history, oral contraceptive use and smoking
- Post menopause: risk rises rapidly

Recognizing heart disease in women:
- Women's symptoms often differ from men's
- Chest discomfort rather than chest pain
- Heart attack symptoms in women:
  - Pain in neck, jaw or arms
  - Heaviness in shoulders, back and stomach
  - Out of breath, tired, sweating and nausea

Reasons that signs may be overlooked:
- Sex-bias in health-care delivery
- Viewed as a male disease
- Women decline procedures more than men
- Symptoms are more vague
- Less aggressive treatment after heart attack
- Older age
- Smaller arteries
- Incidence: post-infraction angina, heart failure

New weapons against heart diseases

Techniques of diagnosing heart disease:
- Electrocardiogram (ECG), angiography
- Positron emission tomography (PET) scan
- Radionuclide imaging
- Magnetic resonance imaging (MRI)
- Ultrafast computed tomography (CT)
- Digital cardia angiography (DCA)

Angioplasty vs bypass surgery:
- Coronary bypass: less invasive treatments, better
- Angioplasty: fewer risks, may need repeating
- Drugs: beta blockers, calcium channel blockers, cholesterol-lowering medications, aspirin

Thrombolysis:
- Injection: dissolves clots, restores blood flow

Cancer incidence and mortality

- 196 900 new cases in Canada (2015)
- 24% women and 29% men will die
- Mortality: declining for all under age of 70
- Lung cancer: causes most cancer deaths
- Influences: age, sex, ethnicity, socioeconomics and lifestyle

What is cancer: uncontrolled growth and spread of abnormal cells.
- Neoplasms
- Malignant and benign tumors
- Biopsy
- Metastasis

What causes cancer?
- Majority is preventable (healthy lifestyles, environments)
- External and internal factors
- Theories:
  - Spontaneous errors during cell reproduction
  - External agents initiate growth (ex: carcinogens)
  - Oncogenes: cancer-causing genes (on chromosomes)

Risks for cancer
- Lifestyle
  - Anyone can develop, most are age 55+
  - Cancer risk: assessing risk factors
    - Lifetime risk
    - Relative risk

- Smoking
  - Leading cause of preventable death, worldwide
  - Tobacco responsible for 1 in 5 deaths, annually
  - Lung cancer: most deaths for men and women
  - Related to many different cancers

- Obesity
  - Cancer: more common among obese
  - Cancer risk increases, as obesity increases
  - Significant relationship, high BMI, cancer deaths

- Biologic factors:
  - Genetic predisposition
  - Sex influences types of cancer (breast cancer)

- Occupation and environmental factors
  - Workplace: small percentage of all cancers
  - Carcinogens: asbestos, nickel, chromate, benzene and arsenic
  - Dyes, radioactive substances, ionizing radiation (X-rays)

- Social and psychological factors
  - Negative emotional states may contribute
  - Stress, poor sleep, poor diet and depression

- Chemicals in food
  - Sodium nitrate, nitrosamines
  - Pesticides and herbicide residues

- Infectious diseases:
  - 16.1% cancers worldwide are attributable to infections
  - Influences, chronic inflammation, suppressed immunity and chronic stimulation

- HBV, HCV and liver cancer
  - Viruses hepatitis B and C may stimulate cancer

- HPV and cervical cancer
  - Human papilloma virus (HPV), almost 100% in cases
  - HPV vaccine available for women

- Medical factors
  - Estrogen replacement therapy
  - Chemotherapy: increases risk of certain cancers

Types of cancer

Classification of cancer
- Carcinomas: epithelial tissues
  - Great, lung, intestines, skin and mouth
- Sarcomas: mesodermal (middle) layer tissues
  - Bones, muscles and connective tissues
- Lymphomas: lymphatic system
- Leukaemia: blood-forming parts

Lung cancer:
- Symptoms: persistent cough, chest pain, recurrent pneumonia or bronchitis
- Only 17% live 5 years beyond diagnosis
- Prevention:
  - Exposure to smoke, industrial substances and radiation
  - 90% lung cancers avoided by not smoking
  - Quitting smoking: immediate health improvements

Breast cancer:
- 1 in 9 women; risk increases with age
- Warning signs: persistent breast changes
  - Lump, thickening, swelling or dimpling
- Prevention:
  - Physical activity (4 hours per week)
  - Regular self examination and mammography
- Know your breasts
- What to look for:
  - Lump, swelling, changed shape, size, redness
  - Crusting, dimpling and inverted nipple
- Treatment: mastectomies, lumpectomy, chemotherapy and radiation

Colorectal cancers:
- Waring: bloody rectum stool, bowel changes
- Higher risk: people 40+ with family history
  - Inflammatory bowel problems

Prostate cancer:
- Most common: risk increases withal
- Warning: weak, interrupted urine flow
  - Other urine-related difficulties

Skin cancer:
- Most do not die (common)
- Malignant melanoma: major killer (young women)
- Linked to sunlight exposure
- Symptoms:
  - Unusual skin conditionS
  - A (asymetry) B (border irregularity) C (colour) D (diamiter) E (evolving) warning signs of melanoma

Testicular cancer:
- Ages 17-34 at greater risk
- Cause is unknown: suspected genetic influence
  - Undescended testicles, greater risk
- First sign: painless enlargement of testes or thickening of testicular tissue
- Self examination is important

Ovarian cancer:
- Enlargement of abdomen, a common sign
- Prevention: annual pap test; lowered saturated fats

Uterine cancer:
- Risk factors: multiple sex partners, smoking and STIs
- Warning sign: abnormal bleeding

Leukemia:
- Cancer of blood-forming tissues
- Symptoms: fatigue, paleness and weight loss, easy bruising, repeated infectons, nosebleeds
- Dramatic improvement in survival since 1970s

Oral cancer:
- Lips, cheeks, gums and floor of mouth
- Tobacco use is the most common risk factor

Facing cancer

Detecting cancer:
- Magnetic resonance imaging (MRI) uses magnetic fields to generate an image of interna tissues of the body for diagnostic purposes.
- Computerized axial tomography scanning (CAT scan) uses X-ray to view interna organs not visible on X-ray.
- Self-exam and check-ups
- Assess risk factors and avoid them

New hope in cancer treatments:
- Surgery to remove tumor
- Radiotherapy (radiation)
- Chemotherapy (use of drugs)
- Attention: psychological needs of patients and families

Life after cancer:
- heightened public awareness and improved prognosis
- Less threat and less isolation
- Assistance is more readily available
- Research improvements

MODULE 13 - CONTROLLING RISK FOR INFECTIOUS AND NONINFECTIOUS CONDITIONS

Infectious disease risk factors
Pathogen: disease-causing agent.
Epidemic: disease outbreak in a community.
Pandemic: global epidemic.
Immune system: protects us from infectious diseases.
Virulent: strong enough to overcome host resistance and cause disease.
Immulogical competence: ability of the immune system to defend the body from pathogens.
Canada: public health networks control infectious diseases (regional, provincial and national level; clean food and water, immunizations, excellent health-care system)

Most diseases are multifactorial (several factors).
Conditions requires for disease to occur: susceptible host (weak immune system), transmitting agent and hospitable environment (temperature, light, moisture).

Risk factors you cannot control:
- hereditary = chromosomal inheritance
- aging = after age of 40 or very young age we are more vulnerable do diseases
- environmental conditions = unsanitary conditions, presence of drugs, chemicals and hazardous polluants

Risk factors you can control:
- Too much stress
- Inadequate dietary intake
- Physical inactivity and lack of sleep
- Misuse or abuse of drugs
- Poor personal hygiene
- High risk behaviours

The pathogens: routes of invasion
Transmission:
- Direct and indirect (touching contaminated table) contact
- Auto inoculation (one part of one's body to another)
- Airborne contact (breathe something)
- Food-born infection (e-coli)
- animal-borne pathogens
- Water-borne diseases

Bacteria: single-cell organisms. Three major types: cocci, bacilli and spirilla. They produce toxins which are poisonous substances.
- Staphylococcal infections: bacteria present on skin but it can cause an infection when the skin in cut (acne, infected cuts). The only fatal one is the toxic shock syndrome = using tampon for a long period of time; someone receiving from a wound, a surgery.
- Streptococcal infections: caused by streptococci. Step throat, scarlet fever, rheumatic fever.
- Pneumonia: caused by bacterial infection, presence of viruses, chemicals in the lungs.
- Tuberculosis: caused by a bacterial infection of the respiratory system (transmitted through infected air). Treatable by antibiotics but its still the top infectious diseases killer. The resurgence of TB is caused by phasing-out of surveillance, antibiotic-resistant TB, large-scale migration, HIV.

- Periodontal diseases: disease of the tissue that surrounds teeth (gums, bones and peridontal ligaments). Could lead to permanent tooth loss.

Viruses: smallest pathogens (protein structures of RNA or DNA). Their treatment is difficult because they can withstand heat. Incubation time is the time required to develop fully the symptoms. Slow-acting viruses can take years to have developing symptoms. Interferon is a protein substance produced by the body that helps the immune system by protecting healthy cells.

- The common cold: maintaining a high resistance level to avoid catching a cold (eating well, getting enough rest, regular physical activity).
- Influenza (flu): a common viral disease of the respiratory tract. the A form of the virus (the most virulent), the B and the C. Vaccines can help prevent some flu.
- Infectious mononucleosis: caused by the Epstein-Barr virus. Not highly contagious.
- Hepatitis: a virally caused disease in which the liver becomes inflamed, resulting in fever, headache and jaundice. Hepatitis C has an incubation time of 14-168 days (most are asymptomatic). Hepatitis B has an incubation time of 45-180 days. Hepatitis A has an incubation time of 15-45 days.
- Mumps: minor to no symptoms. Incubation time of 16-18 days. Virus lodges in the glands of the neck so the symptoms are the swelling of the salivary glands. It could affect the sterility in men.
- Chicken pox: caused by varicella-zoster virus. Symptoms = fever, skin eruptions, blisters. Virus is present in the blisters for 1 week. Shingles is more serious and can affect both sides of body.
- Measles: viral disease that produces symptoms including an itchy rash and a high fever. It's the most contagious disease (leading cause of death among children). Incubation time of 10 days. Rubella is a milder version of measles that causes a rash and a mild fever in children and may cause damage ti a fetus or a newborn baby.

Your body's defences: keeping you well

Physical and chemical defences

- Skin: enzymes by producing inhospitable pH levels.
- Slight elevations in body temperature
- Lining of the body (mucous membranes) and the cilia
- Secretions at body entrances (tears, mucus)
- Immune system

The immune system:

- Antigens (substance capable of triggering an immune response), antibodies (substances produced by the boy to destroy or weaken specific agents).
- Immunoglobins
- Humoral immune response: body's major defence against bacteria and infections.
- Cell-mediated immunity: formation of lymphocytes, specifically the macrophages, that attack a foreign member (virus, fungi, parasite, some bacteria).
- Lymphocytes: Two types of lymphocytes: B cell (produces antibodies) and T cell (direct activity of the immune system) produced in the bones.

Autoimmune diseases: immune system mistakenly targets own tissues (rheumatoid arthritis, lupus erythematosus).

Immune deficiency syndrome: acquired immune deficiency syndrome (AIDS).

Fever:
- Rises temperature as a response to an invading organism. It is caused by toxins secreted by pathogens.
- Harmful if extreme. They protect the body by destroying some disease-causing organisms and stimulating more white blood cell production.

Pain:
- Response to injury which stops action and prevents further injury.
- Can be direct or referred (pain in neck or jaw when having a heart attack).
- Most often accompanied by inflammation.

Vaccines: blistering your immunity
- Vaccination: inoculation with killed, weakened pathogens to prevent or lessen effects of some diseases.
- Vaccinations contribute to acquire immunity.

Sexually transmitted infections
Transmitted through vagina, anal and oral contact.
They were formally called STDs or Venereal Diseases.
Incidence is rising with a majority of new infections (15-24 year olds).
If left untreated = sterility, blindness, CNS destruction.

Possible causes
Possible contributing factors:
- Moral and social stigma (shame keeps people from seeking treatment)
- Casual attitude towards sex
- Ignorance about infections/symptoms

Modes of transmission:
- Vaginal and anal intercourse
- Oral-genital contact
- Hand-genital contact
- Mouth to mouth contact
- Contact with fluids from body sores

Chlamydia: most preventable bacterial STI in Canada. It is also treatable. May display no symptoms (may lead to secondary damage that can affect glands, fallopian tubes = sterility). It's responsible for one type of conjunctivitis = serious inflammation of the eye caused by irritants.

Pelvic inflammatory disease (PID): term used to describes a number of infections of the uterus, fallopian tubes and ovaries which can result from untreated infections. Nonsexual causes: excessive douching, substance abuse and smoking.

Gonorrhoea: caused from bacteria. Rates declined since 1980 (better diagnosis/treatments).
- Male symptoms: white discharge from penis and painful burning urination.
- Female rarely experience symptoms.

Early treatments are antibiotics but if untreated, it can lead to problems including sterility.

Syphilis: caused from a bacterial organism. Increases sexual transmission of HIV.
- Primary syphilis: development of sore (chancre) located at the site of the infection.
- Secondary syphilis: secondary symptoms that appear a year after chancre like a rash.
- Latent syphilis: the bacteria invades body organs with periodic reappearance.
- Late syphilis: years after the bacteria has entered the body, its effects become evident.

Treatment for syphilis are antibiotics (penicillin).

Public lice (also called crabs): small parasites which deposit eggs on public hair.

Venereal warts: genital warts (easy to catch) which are caused by human papilloma viruses (HPVs). Venereal warts disappears without treatment and there are vaccinations available for it.
Treatment for venereal warts is medication, cream, surgery and injections.

Candidiasis (moniliasis): yeast-like fungus (candida albicans) that is already found in the vagina but it will multiply only under certain conditions (acidic environment). The symptoms (vaginitis) include itching, discharge, swelling and burning.
Treated with anti fungal drugs.

Trichomoniasis: caused by protozoan which is usually symptom free. Causes a yellow discharge with an unpleasant odor.
Treatment is oral metronidazole.

General urinary tract infections: UTIs transmission are sexual or through autoinoculation.

Herpes: sores and eruptions
- Sores, blisters: herpes simplex virus type 1
- Genital herpes: herpes simplex virus type 2

Not cure but drugs to reduce symptoms are available. Prevent herpes by awareness and cleanliness.

Acquired immune deficiency syndrome (AIDS)
AIDS: Acquired immune deficiency syndrome.
HIV: human immunodeficiency virus.
They're a global health problem. Over 21 million have died from AIDS (57 million infected with HIV). In Canada, its especially black and aboriginal canadians that have higher rates.

How is HIV treated?
- Engaging in high-risk behaviour
- Exchange of body fluids
- Receiving a blood transfusion prior to 1986
- Injecting drugs
- Mother-to-infant transmission (perinatal)

Reducing your risks for HIV:
- Avoid unprotected sex (for those at risk)
- Use latex condoms
- Do not share injecting needles or devices
- Avid injury to body tissues
- Get tested

Symptoms of AIDS:
- Incubation time varies greatly (children less than adults)
- Infants and newborns are at high risk because their immune system is not fully developed
- HIV+ adults: AIDS develops in 8-10 years with no treatment

Tresting for HIV antibodies:
- Blood tests (ELISA and Western blot)
  - ELISA = blood test that detects the presence of antibodies to HIV
  - Western blot = more precise test than the ELISA to confirm presence of HIV antibodies

Preventing HIV infection:
- No vaccination at this time
- Responsible choices: sex and drug use
- Maintain strong immune system: lifestyle choices

Noninfectious diseases
Chronic diseases: pain, suffering and disability. They normally do not result in death.
They are not transmitted by pathogens or personal contact.
They develop over long period of time.
Lifestyle and personal health are major factors.
Prevention and control could minimize effects.

Respiratory disorders
Allergy-induced problems: a hypersensitive reaction to a specific antigen or allergen in the envvironment in which the body produces excessive antibodies.
- Body defends: specific antigen and allergen.
- Body overreacts by producing antibodies which trigger the release of histamines (chemicals that dilates vessels and increases mucous secretions).

Hay fever: chronic respiratory disorder of ragweed and flowers. Causes sneezing, itching and watery eyes and nose.

Asthma: wheezing, shortness of breath and couching symptoms because of bronchospasm. Majority are children under 10 years of age (mainly boys). Dust, pollen, animal dander, stress and exercise (EIA) make it worse.

Emphysema: gradual destruction of alveoli (air sacs) which causes difficulty exhaling and struggle in taking in air. The cause is uncertain but it's effects are irreversible. It is associated with long-term cigarette smoking and also exposure to air pollution.

Chronic bronchitis (smoker's cough): inflammation of bronchial tubes which impaires normal respiratory function. Its symptoms are productive cough and shortness of breath. A major risk factor is cigarette smoking.

Neurological disorders
Headaches: result of a dilated blood vessel in the brain, underlying organ problem or stress.
- Tensions headaches: muscle contraction or tension in neck or head caused by overuse of muscle, strain, bad position. The chemicals in the brain cause the muscle tension and pain which can be triggered by red wine, lack of sleep, fasting, menstruation.

- Migraine headaches: pulsating pain, dizziness, not tolerant to light or noise. Peaks with young adults, more women. Strong pain relievers are what works, not rest.
- Secondary headaches: they are a result from another condition (ex: sinus blockage).
- Psychological headaches: stem from anxiety, depression and emotional stress.

Seizure disorders = epilepsy: abnormal electrical brain activity.
- Grand mal: body sensation like ringing in ear, loss of consciousness.
- Petit mal: minor loss os consciousness, minor muscle twitch.
- Psychomotor: mental confusion, repetitive movements.
- Jacksonian: goes from one part of the body to another, usually on one side.

Sex-related disorders
Fibrocystic breast disease: its a common and non-cancerous problem. Its a small lump to large masses of tissue which progressively gets worse with age. (Causes unknown). Worse with age. Treatment = surgically remove cyst.

Premenstrual syndrome (PMS): symptoms of depression, irritability, headaches and cramps because of hormonal imbalance before periods.

Endometriosis: abnormal development of endometrial tissue (outside uterus with serious side effects). Tends to affect women age 20-40. Symptoms include cramping, menstrual pain and irregular periods. Treatments include rest, reduce stress, hysterectomy and the removal of ovaries/fallopian tubes.

Digestion-relate disorders
Diabetes: affects over 9 million Canadians (diabetes or prediabetes). Rates expected to increase due to aging population, obesity rates and sedentary lifestyles or ethnic backgrounds of new Canadians. Individuals exhibit hyperglycaemia. Lifestyle and genetic factors.

Colitis and irritable bowel syndrome (IBS):
- Ulcerative colitis is the inflammation of mucous membrane of the colon. Symptoms are bloody diarrhea, stomach cramps, weight loss, causes, sweating and fever. The causes are unknown but linked to stress and food. Treatment focuses on relieving symptoms rather that treating disease itself.
- Irritable bowel syndrome (IBS): nausea, pain, gas or diarrhea. Caused by certain foods or stress. Its symptoms may vary from week to week. Stress management and healthy habits control IBS.

Diverticulosis:
- Bulges in walls of the intestine = irritation and infection
- Bulges may fill with feces = become irritated and infected (pain)
- Bleeding and chronic obstruction can occur which are life threatening

Peptic ulcers: damage to stomach or intestinal lining that are usually caused by digestive juices. Common cause are bacterial infections (helicobacter pylori). Treatments are antibiotics. More preventable in those highly stressed (especially high fat foods and excessive alcohol).

Gallbladder disease:
- Gallbladder irritated by chemicals, infection and overuse = reduces ability for the bile to digest fats

- Gallstones form in the gallbladder = pain in upper right portion of abdomen especially after eating fat foods

Treatments are medication, altering diets and surgical removal.

Musculoskeletal diseases

Arthritis: painful inflammatory disease of the joints.

- Osteoarthritis (OA): progressive deteriorating of bone because of aging (wear and tear). Treatments are anti-inflammatory drugs and joint replacements.
- Rheumatoid arthritis (autoimmune disorder): destruction of bony ends of joints. They are more prevalent in women (cause unknown).

Fibromyalgia: chronic painful rheumatological-like.

- Symptoms: widespread pain, stiffness, tender points and depression. Swelling, coldness, numbing, tingling and headaches.

Cause is unknown but sleep and stress are possible links.

Systemic lupus erythmeatosus (SLE): disease referred to as Lupus. Immune system attacks the body which are antibodies that destroy organs (kidneys, brain and heart). Common symptoms are the butterfly-shaped rash (on the bridge of nose and both cheeks). No cure.

Low back pain (LBP): risk factors for LBP are age, body type and poor posture as well as psychological and occupational factors. Preventing back pain and injury with good posture, mattress and shows and ergonomics and physical activity.

Other diseases

Chronic fatigue syndrome (CFS): symptoms include chronic tiredness, headaches and sore throat. Possible psychological roots.

Job-related disorders:

- Computers = eye strain, low back, neck and shoulders
- Carpal tunnel syndrome is common (wrist) is the irritation of the medical nerve

Diabetes: incidence and mortality

Diabetes mellitus: a group of diseases characterized by high blood glucose levels.
Type 1 diabetes: insulin-dependent diabetes. Immune system destroys insuline-making cells.
Type 2 diabetes: non-insuline dependent diabetes. Deficient insuline or body unable to utilize. 90-95% of all diabetes cases.

Gestational diabetes: in women during pregnancy

- Once believed to disappear after pregnancy
- Increases risk of developing type 2 within 5-10 years of giving birth

Understanding the development of type 2 diabetes:

- Insufficient insulin or cells resistant. Pancreatic insulin-producing cells overworked.
- Overabundance of free fatty acids
- Prediabetes can lead to type 2. Plays role in metabolic syndrome (MetS) with 6 conditions linked to overweight and obesity

Nonmodifiable risk factors: increased age, ethnicity, genetic and biological factors.

Modifiable risk factors: body weight, diet, physical activity and sleep, level of stress, BMI of 25+. Waistline of 102cm for males and 89cm for females.

Symptoms of diabetes: thirst, excessive urination, weight loss, fatigue, nerve damage = blurred vision and poor wound healing and increased infections.

Blood tests to diagnose and monitor diabetes:
- Fasting plasma glucose test (FPG); patient fasts overnight. Blood test for glucose.
- Oral glucose tolerance test (OGTT): patient drink liquid concentrated in glucose. 2 hours later they are blood tested for glucose.

Complication associated with diabetes:
- Cardiovascular disease
- Kidney disease
- Amputations
- Eye disease and blindness
- Fly and pneuonia-related deaths
- Pregnancy complications

How is diabetes treated? For pre diabetes and diabetes vary according to the type they have and how far the disease has progressed.
Lifestyle changes can improve glucose levels:
- Weight loss: recommended to lose 5-7% of current weight
- Eat well = whole grains, high-finer foods an fatty fish
- Increasing physical activity: the diabetes prevention program recommends 30 min of activity 5 days a week

Oral meds for diabetes: effects of various medications are…
- Reduce glucose production by liver
- Slow absorption of carbohydrates (smll intestine)
- Increase insulin production by the pancreas
- Increase the insulin sensitivity of cells

Insuline injections may be necessary
- Essential for type 1
- For some type 2, only when glucose uncontrollable with other treatments.
- Insuline cannot be taken as a pill (infusion pump instead)

MODULE 14 - BECOMING A WISE CONSUMER OF HEALTH SERVICES
Chapter 16

Making informed health-care choices
Our health-care system, based on: equity, fairness, compassion, respect and dignity.

Current adaptations:
- A determinants of health framework
- From institutional to community-based models
- Strategies: management of health-care workforce
- Reducing wait times for care

Evaluating online medical resources
- Who runs the site? Someone responsible.
- Who pays for the site? The funding should be stated.
- The purpose of the site? The purpose should be stated to elevate trustworthiness.
- Where does the information come from? Sources should be identified.
- The basis of the information? Materials, facts, figures, evidence.
- How is the information selected? Peer-reviewed by health professionals.
- How current is the information? Updated.
- What information does site collect, why? Credible websites.
- How does site interact with visitors? Contact owner.

Financing health care:
- Predominantly publicly funded in Canada
- Medicare: provincial, territorial insurance plans
  - Universal, comprehensive coverage
  - Hospital, inpatient and outpatient physician services
- All principles linked at the federal level

Accepting responsibility for health care:
- Disparities in access to uninsured services
- Learn: how, where, when to enter system
  - To obtain needed care
- Know about self-care, its limits

Why some false claims may seem true
- Spontaneous remission: disappearance of symptoms without any treatment.
- Placebo effect: apparent cure or improved state of health brought about by a product with no medicinal value.

Self-care
Where to seek help: understanding when to seek professional attention
- Serious accident or injury
- Sudden or severe chest pains
- Sudden high fever
- Persistent, recurrent diarrhea or vomiting

Being proactive in your health care:
- Know your medical history (your condition)
- Bring friend, relative to medical appointments
- Ask providers to explain clearly
- Ask about medications, lab test results
- Seek a second opinion

Afterwards:
- Write an account of what happened
- Shop around for the best price
- Ask pharmacist: side effects, drug interactions
- Have clear instructions written on label

Assessing health profession:
- Training, license, certification
- Affiliations with accredited institutions
- Clear timeline for treatment
- Diagnoses, treatments: consistent with scientific theory
- Listen, respect you: allow for questions

Choices of medical care
Traditional (allopathic) medicine:
- Primary care practitioner:
  - Treats routine aliments; advises on prevention
  - Gives general medical advice; refers
- Informed consent: right to ask question

Allied professionals: registered nurses and nurse practitioners

Complementary and alternative medicine:
- Chiropractic treatment
- Massage therapy
- Acupuncture and acupressure
- Herbalists and homeopaths
- Herbal remedies and other supplements. Do herbal remedies have risks or side-effects? Some have benefits and some should avoided
- Naturopathy
- Other alternative therapies

Types of medical practices
Group or solo practice (combined or independent)
Hospitals and clinics:
- Profit status: non-profit, for-profit
- Ownership: private or public
- Speciality: ex: children's or chronic care
- Teaching status (ex. teaching affiliated or not)
- Size

Promises and problems of Canada's health-care system
Access:
- The supply to provides
- The supply of facilities
- The person's health status
- Geographical location

Quality assurance:
- Mechanisms or insuring quality include:
  - Education, licensure (guarantee of quality)
  - Certification, accreditation, peer review
  - Legal system of malpractice litigation

Detecting fraud and abuse in the system
- Become knowledgeable when selecting health-care providers
- Agencies responsible for protecting consumers:
  - Health protection branch of Health Canada
  - Colleges/universities of various health professionals

Free-for-service: currently, dominant model
- Physician bills provincial health plan

Planners: searching for other models

Health service organization (HSO):
- Fund set amount, per patient
- HSO is responsible for overall care
- Encourages prevention