

प्रदेश लोक सेवा आयोग

बागमती प्रदेश

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मिनेट

निम्न प्रश्नहरूको उत्तर **Section** अनुसार छुट्टाछुट्टै उत्तरपुस्तिकामा लेख्नुहोस्, बनाएका उत्तरपुस्तिका रह बुझाउनुहोस्।

Section – A

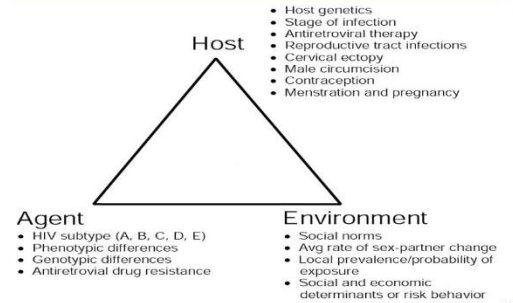
1. Describe the concept of the epidemiological triad.

The epidemiological triad is a simple model to understand how diseases spread. It has three parts that must interact for a disease to occur:

- **Agent:** This is the germ that causes the disease. It can be a virus (like the Dengue virus), a bacterium (like the one that causes Typhoid), a parasite, or a fungus.
- **Host:** This is the person (or animal) who gets the disease. Factors like age, vaccination status, nutrition, and overall health determine if a host will get sick.
- **Environment:** These are the external conditions that allow the agent to reach the host. This includes things like poor sanitation, contaminated water, climate, and the presence of mosquitoes.

Epidemiologic Triad

Agent, host, and environmental interaction



Types of Agents

Agents may be:

1. Biological

Helminths, Protozoans, Fungi, Bacteria, Rickettsia, Viruses, Prion

2. Chemical

Foods, poisons, drugs, allergens

3. Physical

Heat, light, radiation, noise, vibration, objects

#### Types of Host Factors

- Physiological
- Anatomical
- Genetic
- Behavioral
- Occupational
- Constitutional
- Cultural
- etc!

#### Types of Environmental Factors

- Physical, chemical, biological
- Social, political, economic
- Population density
- Cultural

Environmental factors that affect presence and levels of agents

To stop a disease, public health efforts try to break one of the sides of this triangle. For example, vaccination protects the host, cleaning up stagnant water changes the environment to control mosquitoes, and medicine kills the agent.

## 2. Define liquid waste. Mention disposal techniques of liquid waste at community level.

### Definition of Liquid Waste:

Liquid waste is any waste in liquid form, also known as wastewater. In a community, this mainly includes sewage (from toilets) and sullage (from kitchens and bathrooms). It is important to dispose of it safely to prevent the spread of diseases.

### Disposal Techniques at Community Level in Nepal:

In communities in Nepal, especially where there is no central sewer system, the following methods are used:

- **Soak Pit:** This is a covered pit filled with stones and brickbats, where wastewater from kitchens and bathrooms (not toilets) is discharged. The water slowly soaks into the ground.
- **Septic Tank:** This is an underground tank where wastewater from the entire house, including the toilet, is collected. Solids settle at the bottom and are broken down by bacteria, while the liquid flows out into a soak pit or drain field.
- **Community Sewerage System:** In some urban areas, a network of underground pipes collects wastewater from all houses and carries it to a central treatment plant for safe disposal.
- **Drainage Channels:** Simple open or covered drains are common for carrying away rainwater and household wastewater. They must be kept clean to prevent them from becoming a source of smell and a breeding ground for mosquitoes.

### 3. What are Health Provisions on Bagmati Province according to current Periodic Plan?

The health provisions of Bagmati Province, under its periodic plan, are designed to implement the national health policies at the provincial level, focusing on making healthcare accessible to all. The key provisions include:

- **Strengthening Health Facilities:** Improving services at all levels, from local health posts to provincial hospitals, by ensuring they have the necessary staff, medicines, and equipment.
- **Maternal and Child Health:** Running programs to reduce the deaths of mothers and children by promoting safe childbirth in health facilities, ensuring full immunization, and managing childhood illnesses.
- **Disease Control:** Focusing on controlling both communicable diseases like dengue and tuberculosis, and the increasing problem of non-communicable diseases like hypertension, diabetes, and heart disease.
- **Expanding Health Insurance:** Working to enroll more families in the national health insurance program so that people do not face financial ruin because of medical expenses.
- **Developing Health Infrastructure:** Building and upgrading health facilities, with a goal of having at least one basic hospital in every local level (municipality).
- **Coordination:** Working closely with the federal government and local municipalities to ensure health programs are planned and run effectively.

### 4. What is dengue? Mention the goal, objectives and strategies of the Dengue control program.

#### What is Dengue?

Dengue is a viral disease spread by the bite of an infected *Aedes* mosquito, which typically bites during the day. Its symptoms include high fever, severe headache, pain behind the eyes, muscle and joint pain, and a rash. While most people recover, some can develop severe dengue, which is a life-threatening emergency.

#### Goal, Objectives, and Strategies of the Dengue Control Program:

- **Goal:** The main goal is to reduce the number of people getting sick (morbidity) and dying (mortality) from dengue fever.
- **Objectives:**
  - To detect dengue outbreaks early through a strong surveillance system.
  - To ensure health facilities can diagnose and manage dengue cases correctly.
  - To reduce the population of the *Aedes* mosquito.
  - To raise awareness in the community about how to prevent dengue.
- **Strategies:**

- **Vector Control:** The most important strategy is "Search and Destroy," where communities are mobilized to find and eliminate stagnant water sources where mosquitoes breed (e.g., in old tires, flower pots, discarded containers).
- **Case Management:** Training doctors and health workers on the proper guidelines for treating dengue patients to prevent them from becoming severe.
- **Health Education:** Using mass media, posters, and community health volunteers (FCHVs) to teach people about dengue symptoms and prevention methods.
- **Outbreak Response:** Having teams ready to respond quickly when an increase in cases is reported in an area.

## 5. What is a social health security program? What are the key features of the social health security program in Nepal?

### What is a Social Health Security Program?

A social health security program is a system designed to make sure that everyone can get the healthcare they need without having to worry about the cost. It works by collecting regular contributions from families (like an insurance premium) into a common fund, which is then used to pay for the medical expenses of the members.

### Key Features of the Social Health Security Program in Nepal:

Nepal's program is run by the Health Insurance Board. Its main features are:

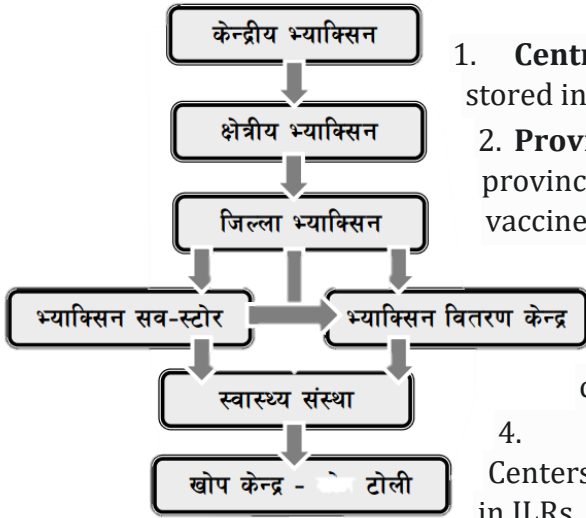
- **Family-Based Enrollment:** A household enrolls as a single unit. For example, a family of up to five members pays one annual fee.
- **Premium and Benefit:** A family pays a set premium (e.g., NPR 3,500 for a family of five) to get coverage for health services up to a certain limit (e.g., NPR 100,000 per year).
- **Government Subsidy:** The government helps poor and marginalized families, senior citizens, and persons with disabilities by paying their premium for them.
- **Cashless Service:** When a member goes to a hospital that is part of the program, they can receive services without paying cash by showing their insurance card.
- **Defined Service Package:** The insurance covers a specific list of services, including OPD, inpatient care, emergency services, lab tests, and essential medicines.
- **Referral System:** Members must first visit their designated primary health facility. If they need more specialized care, they will be referred to a bigger hospital.

## 6. Explain the process of cold chain management in Nepal.

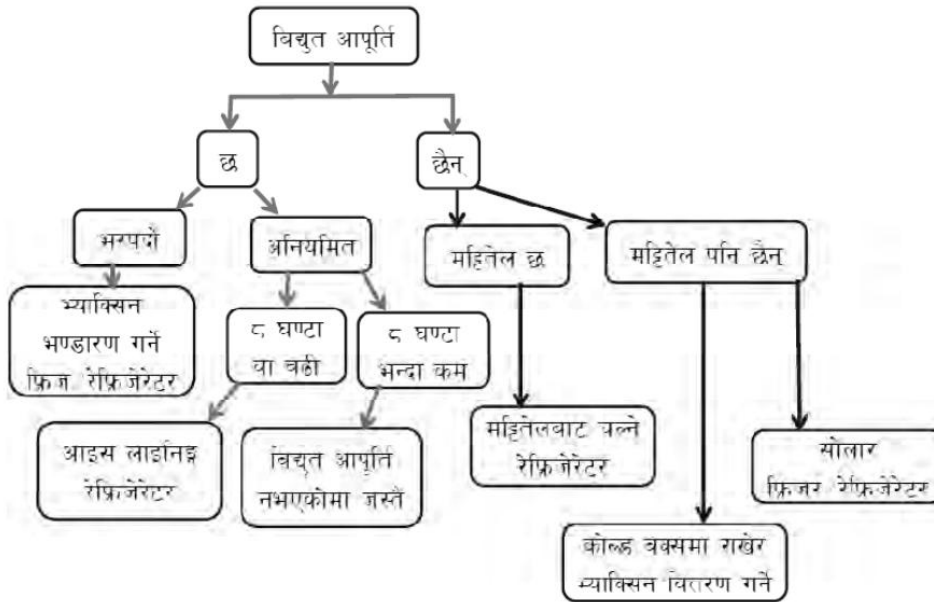
The cold chain is the system used to keep vaccines at the correct, safe temperature (usually between

+2°C and +8°C) from the time they are made until they are given to a person. A break in the cold chain can make vaccines ineffective. The process in Nepal has several steps:

भ्याक्सिन तथा खोप सामग्रीको वितरणतालिका



- 1. Central Level (Kathmandu):** Vaccines arrive from abroad and are stored in large walk-in coolers and freezers at the central vaccine store.
- 2. Provincial Level:** Vaccines are transported from the central store to provincial stores in refrigerated vans. These provinces store the vaccines for the districts under them.
- 3. District Level:** The vaccines are then sent to the district health offices, where they are kept in special refrigerators called Ice-Lined Refrigerators (ILRs), which can stay cold for many hours during power cuts.
- 4. Health Post Level:** Health posts and Primary Health Care Centers (PHCCs) receive vaccines from the district and also store them in ILRs.
- 5. Immunization Session:** On vaccination day, the health worker carries the required number of vaccine vials in a **vaccine carrier**. This is a small, insulated box with frozen **ice packs** inside to keep the vaccines cold while they are taken to the village or vaccination site.



At every step, the temperature is carefully monitored and recorded. Additionally, vaccine vials have a sticker called a Vaccine Vial Monitor (VVM) that changes color if the vaccine is exposed to too much heat, indicating that it should not be used.

## 7. Describe the causes, clinical features, diagnosis, and management of typhoid fever.

Typhoid fever (also known as enteric fever) is a serious bacterial infection.

- **Cause:** It is caused by the bacterium *Salmonella Typhi*. It spreads through the fecal-oral route, meaning by eating food or drinking water that has been contaminated with the feces of an infected person.
- **Clinical Features:**
  - **High, Step-ladder Fever:** The fever typically rises gradually over several days, often higher in the evening.
  - Headache, weakness, and body aches.
  - Loss of appetite and dry cough.
  - Abdominal pain and discomfort. Constipation is common in the early stage, but diarrhea can also occur.
  - **Rose Spots:** Some people may get a faint pink rash on their abdomen and chest.
  - If untreated, serious complications like bleeding from the intestine or a hole in the intestinal wall (perforation) can occur.
- **Diagnosis:**
  - **Blood Culture:** This is the most reliable test for diagnosing typhoid, especially in the first week of fever.
  - **Widal Test:** This blood test is widely available in Nepal but is often inaccurate and can give misleading results. Diagnosis should not be based on it alone.
  - Clinical symptoms are very important for diagnosis in resource-limited settings.
- **Management:**
  - **Antibiotics:** Treatment with appropriate antibiotics is essential to kill the bacteria. The choice of antibiotic depends on local drug resistance patterns.
  - **Supportive Care:** This is very important and includes:
    - **Rehydration:** Making the patient drink plenty of fluids (like water, soup, jeevan jal) to prevent dehydration. IV fluids may be needed if the patient cannot drink.
    - **Nutrition:** Providing a soft, nutritious, and easily digestible diet.
    - **Fever Control:** Giving paracetamol to control the high fever.
  - **Prevention:** The best prevention is through ensuring safe drinking water, proper sanitation, and good personal hygiene, especially washing hands with soap.

## 8. Discuss the health system structure of Nepal from federal to local level.

Nepal's health system is structured into three tiers of government to bring services closer to the people.

### 1. Federal Level (The Center):

- The **Ministry of Health and Population (MoHP)** is at the top. It is responsible for making national health policies, laws, and standards.

- It manages large, specialized national hospitals (like Bir Hospital), runs major public health programs (like immunization and malaria control), and handles the procurement of vaccines and essential drugs for the whole country.

## 2. Provincial Level (The Provinces):

- There are seven provinces, and each has a **Ministry of Social Development** or a **Ministry of Health** that looks after health.
- This level is responsible for implementing national policies within the province. It manages the provincial hospitals, which act as referral centers for the districts.
- It also provides technical support and coordinates with the local governments within its territory.

## 3. Local Level (Municipalities):

- This is the most important level for direct service delivery to citizens. There are 753 local governments (municipalities and rural municipalities).
- Each local government has a **Health Section** that manages all the health facilities within its area. These facilities include:
  - **Basic Hospitals** (currently being established).
  - **Primary Health Care Centers (PHCCs).**
  - **Health Posts.**
  - **Basic Health Service Centers** at the ward level.
- This entire system is supported at the grassroots by **Female Community Health Volunteers (FCHVs)**, who are the bridge between the community and the health facilities.

## Section-B

### 9. What is the clinical feature of Scabies? Briefly describe its management at Health Post Level.

#### Clinical Features of Scabies:

Scabies is a skin infestation caused by a tiny mite called *Sarcoptes scabiei*. The most prominent clinical feature is:

- **Intense Itching (Pruritus):** The itching is typically severe and is characteristically worse at night.
- **Rash and Burrows:**
  - **Rash:** A pimple-like rash (papules) is common. It is often found in the webbing between fingers, on the wrists, elbows, armpits, waistline, and genital area. In infants and young children, the rash can also appear on the head, face, neck, palms, and soles.

- **Burrows:** These are thin, thread-like, grayish-white or skin-colored lines on the skin surface, created by the female mite tunneling under the skin. They can be difficult to see.
- **Sores and Secondary Infection:** Constant scratching of the itchy rash can lead to sores. These sores can become infected with bacteria, leading to complications like impetigo (crusted sores).

### Management at Health Post Level:

1. **Diagnosis:** Diagnosis is usually based on the characteristic symptoms of intense itching (especially at night) and the typical rash distribution.
2. **Medication:**
  - **Permethrin 5% Cream:** This is the most common and effective treatment. The patient is advised to apply the cream to the entire body from the neck down and leave it on for 8-14 hours (usually overnight) before washing it off. In infants, the head and neck may also need to be treated.
  - **Benzyl Benzoate 25% Lotion:** This is an alternative treatment but can be more irritating to the skin.
  - **Oral Ivermectin:** This may be considered in severe or crusted scabies cases or for outbreaks, but its availability and use protocols might be limited at the health post level.
3. **Treatment of Contacts:** It is crucial to treat all close household contacts and sexual partners at the same time as the infected person, even if they do not have symptoms. This prevents re-infestation.
4. **Symptomatic Relief:** Antihistamine tablets can be given to help relieve the itching. Calamine lotion can soothe the skin.
5. **Health Education:**
  - Advise the patient that itching may continue for 2-4 weeks even after successful treatment, as it is an allergic reaction to the mites.
  - Explain the importance of treating the whole family simultaneously.
  - On the day of treatment, advise washing all clothing, bedding, and towels used in the last three days in hot water and drying them in the sun or with a hot dryer. Items that cannot be washed can be sealed in a plastic bag for at least 72 hours, as the mites cannot survive off a human host for more than 2-3 days.
6. **Managing Secondary Infections:** If the sores are infected, appropriate antibiotics (oral or topical) should be prescribed.

### 10. What is a complicated pregnancy? Enumerate the signs/symptoms of early referral of a complicated pregnancy from a health post.

#### What is a complicated pregnancy?

A complicated pregnancy is one where the mother, the fetus, or both have a health problem or are at a higher-than-normal risk of developing one. These complications can occur before, during, or after

pregnancy and delivery. They require careful monitoring and specialized medical care beyond routine prenatal check-ups to ensure the best possible outcome for both mother and baby.

### **Signs/Symptoms for Early Referral of a Complicated Pregnancy from a Health Post:**

A health post worker must recognize danger signs and refer the pregnant woman to a higher-level facility (like a primary hospital or provincial hospital) immediately if she presents with any of the following:

- **Vaginal Bleeding:** Any bleeding from the vagina during pregnancy is abnormal and requires urgent attention.
- **Severe Headaches and Blurred Vision:** These can be signs of pre-eclampsia, a dangerous high blood pressure disorder.
- **High Fever:** A fever (e.g., above 38°C or 100.4°F) could indicate a serious infection that can harm both mother and fetus.
- **Severe Abdominal Pain:** While some discomfort is normal, severe or persistent pain could signal problems like an ectopic pregnancy (early in pregnancy) or placental abruption (later in pregnancy).
- **Swelling of Hands, Face, and Legs (Edema):** Sudden and severe swelling can be another sign of pre-eclampsia.
- **Convulsions or Fits:** This is a sign of eclampsia, a life-threatening emergency.
- **Reduced or Absent Fetal Movements:** A significant decrease in the baby's movements in the third trimester is a warning sign of fetal distress.
- **Gush of Fluid from the Vagina:** This could indicate premature rupture of membranes (water breaking too early), which increases the risk of infection.
- **Signs of Severe Anemia:** Extreme tiredness, breathlessness, and very pale skin (palms, tongue).
- **Persistent Vomiting:** Severe vomiting (hyperemesis gravidarum) can lead to dehydration and malnutrition.

### **11. How does a health post in-charge play a role in preventing the spread of conjunctivitis in the community?**

Conjunctivitis (आँखा पाक्ने रोग), or "pink eye," is a common and highly contagious eye infection. The Health Post In-charge plays a crucial role in preventing its spread through a combination of clinical, educational, and community-level actions.

#### **1. Early Diagnosis and Treatment:**

- The in-charge ensures that individuals presenting with red, itchy, and watery eyes are diagnosed correctly to differentiate between viral, bacterial, or allergic conjunctivitis.
- Providing appropriate treatment (e.g., antibiotic eye drops for bacterial cases, supportive care for viral cases) reduces the duration of the infection and the period of contagiousness.

## 2. Health Education and Awareness:

- This is the most critical role. The in-charge and their team must educate the community on how conjunctivitis spreads (through direct contact with infected eye secretions).
- They should promote key preventive messages:
  - **Frequent Handwashing:** Emphasize washing hands with soap and water, especially after touching the eyes.
  - **Avoid Touching Eyes:** Advise people not to touch or rub their infected eyes.
  - **Do Not Share Personal Items:** Stress the importance of not sharing towels, handkerchiefs, pillows, eye drops, or makeup.
  - **Isolation:** Recommend that infected individuals, especially children, stay home from school or work for a few days to prevent spreading it to others.
  - **Use of Dark Goggles:** While this does not prevent spread, it can reduce discomfort from light sensitivity and serve as a reminder to others to keep a distance.

## 3. Community and School Outreach:

- During an outbreak, the in-charge can coordinate with local schools to inform teachers and students about preventive measures.
- They can use Female Community Health Volunteers (FCHVs) to disseminate information door-to-door in the community.

## 4. Surveillance and Reporting:

- The in-charge monitors the number of cases presenting at the health post. A sudden increase can indicate an outbreak.
- They report this trend to the municipal health section and district health office so that wider public health measures can be initiated if necessary.

## 12. Highlight the major causes of neonatal deaths in Nepal.

A neonatal death is the death of a baby within the first 28 days of life. In Nepal, the major causes are largely preventable and are linked to the health of the mother, the quality of care during childbirth, and immediate postnatal care. The main causes are:

1. **Birth Asphyxia:** This is the failure of a newborn to initiate and sustain breathing at birth. It leads to a lack of oxygen, causing brain damage and death. It can be caused by problems during labor and delivery.
2. **Prematurity and Low Birth Weight:** Babies born too early (before 37 weeks) or too small (less than 2.5 kg) have underdeveloped organs, making them highly vulnerable to infections, breathing problems (respiratory distress syndrome), and difficulty maintaining body temperature (hypothermia).
3. **Neonatal Infections (Sepsis):** Serious bacterial infections are a leading cause of death. Sepsis, pneumonia, and meningitis can develop due to unhygienic delivery practices, poor cord care, or exposure to infection after birth.

4. **Congenital Anomalies (Birth Defects):** These are structural or functional abnormalities that occur during fetal development. Severe defects of the heart, lungs, or brain can be fatal.
5. **Hypothermia:** Newborns, especially those who are premature or have a low birth weight, can lose body heat rapidly. Severe hypothermia can be fatal. Promoting Kangaroo Mother Care (skin-to-skin contact) is a key intervention to prevent this.

### 13. Differentiate between Type I and Type II Diabetes Mellitus.

Type 1 and Type 2 Diabetes Mellitus are both conditions characterized by high blood sugar (hyperglycemia), but they have different causes, onset, and management approaches.

Feature	Type 1 Diabetes Mellitus	Type 2 Diabetes Mellitus
<b>Cause</b>	An autoimmune disease where the body's immune system attacks and destroys the insulin-producing beta cells in the pancreas.	A condition where the body either does not produce enough insulin or the body's cells do not respond effectively to insulin (insulin resistance).
<b>Insulin Production</b>	The pancreas produces very little or no insulin.	The pancreas initially produces insulin, but the amount may be insufficient, or the body can't use it properly. Production may decrease over time.
<b>Age of Onset</b>	Typically diagnosed in children, adolescents, and young adults.	Usually diagnosed in adults over the age of 40, but it is increasingly being seen in younger people due to lifestyle changes.
<b>Body Weight</b>	Patients are often thin or of normal weight at diagnosis.	Most patients are overweight or obese at diagnosis.
<b>Onset of Symptoms</b>	Symptoms appear suddenly and are often dramatic (e.g., severe thirst, frequent urination, rapid weight loss).	Symptoms develop gradually over a long period and may be mild or go unnoticed for years.
<b>Risk Factors</b>	Primarily genetic and autoimmune factors.	Strong link to obesity, physical inactivity, family history, and ethnicity.
<b>Primary Treatment</b>	<b>Insulin injections or an insulin pump are essential for survival.</b>	<b>Lifestyle modification (diet, exercise, weight loss) is the first line of treatment.</b> Oral medications are often needed, and insulin may be required later.
<b>Prevention</b>	Cannot be prevented.	Can often be prevented or delayed through a healthy lifestyle.

### 14. What are the common dental health issues found in Nepal? Describe how we can prevent common dental health issues.

#### Common Dental Health Issues in Nepal:

In Nepal, like in many developing countries, dental health issues are widespread due to a lack of awareness, limited access to dental care, and dietary habits. The most common problems include:

1. **Dental Caries (Tooth Decay/Cavities):** This is the most prevalent dental problem, affecting both children and adults. It is caused by the breakdown of tooth enamel by acids produced by bacteria feeding on sugars in the diet.
2. **Gingivitis and Periodontitis (Gum Disease):** Gingivitis is the inflammation of the gums, causing them to become red, swollen, and bleed easily. If left untreated, it can progress to periodontitis, a more severe infection that damages the soft tissue and bone supporting the teeth, potentially leading to tooth loss.
3. **Dental Abscess:** A collection of pus that can form inside the teeth or gums, caused by a bacterial infection. It leads to severe, throbbing pain.
4. **Malocclusion (Misaligned Teeth):** Crooked or crowded teeth, which can affect chewing and make cleaning difficult, increasing the risk of decay and gum disease.
5. **Oral Cancer:** While less common, it is a serious issue, often linked to the high prevalence of tobacco chewing, smoking, and alcohol consumption in Nepal.

### How to Prevent Common Dental Health Issues:

Prevention is simple, effective, and crucial for maintaining good oral health.

1. **Proper Brushing:**
  - Brush your teeth at least twice a day (morning and before bed) with a fluoride toothpaste.
  - Use a soft-bristled toothbrush and brush for at least two minutes, ensuring all surfaces of the teeth are cleaned.
2. **Flossing:**
  - Clean between your teeth daily with dental floss to remove plaque and food particles that your toothbrush cannot reach.
3. **Healthy Diet:**
  - Limit the consumption of sugary foods and drinks (like sweets, soda, and sugary tea).
  - Eat a balanced diet rich in fruits, vegetables, and calcium (found in milk and dairy products).
  - Rinse your mouth with water after meals and snacks if you cannot brush.
4. **Avoid Tobacco and Alcohol:**
  - Do not smoke cigarettes or chew tobacco products (*khaini, gutka*).
  - Limit alcohol consumption. These habits are major risk factors for gum disease and oral cancer.
5. **Regular Dental Check-ups:**

- Visit a dentist or dental health worker for a check-up and cleaning at least once a year, even if you do not have any pain. This allows for early detection and treatment of problems.

**6. Use of Fluoride:**

- Using fluoride toothpaste helps to strengthen tooth enamel and prevent decay.

**15. Define Hypertension. Discuss the causes, risk factors, prevention, and management of hypertension.**

**Definition of Hypertension:**

Hypertension, or high blood pressure, is a chronic medical condition in which the force of the blood against the artery walls is consistently too high. A blood pressure reading of 140/90 mmHg or higher is generally considered hypertensive. It is often called the "silent killer" because it usually has no symptoms but can lead to serious health problems if left untreated.

**Causes and Risk Factors:**

Hypertension is categorized into two types:

- 1. Primary (Essential) Hypertension:** This accounts for 90-95% of cases and has no single identifiable cause. It tends to develop gradually over many years. Its risk factors are key:
  - **Non-Modifiable Risk Factors:**
    - **Family History:** A genetic predisposition.
    - **Age:** The risk increases with age.
    - **Ethnicity:** People of certain ethnic backgrounds are at higher risk.
  - **Modifiable Risk Factors:**
    - **High Salt (Sodium) Diet:** Excessive salt intake causes the body to retain water, increasing blood volume and pressure.
    - **Obesity:** Being overweight or obese increases the strain on the heart.
    - **Physical Inactivity:** Lack of exercise contributes to obesity and poor cardiovascular health.
    - **Tobacco and Alcohol Use:** Smoking and excessive alcohol consumption raise blood pressure.
    - **Stress:** Chronic stress can contribute to high blood pressure.
    - **Unhealthy Diet:** A diet low in fruits and vegetables and high in saturated fats.
- 2. Secondary Hypertension:** This is caused by an underlying medical condition, such as kidney disease, thyroid problems, or adrenal gland tumors.

**Prevention:**

Prevention focuses on controlling the modifiable risk factors through lifestyle changes:

- **Reduce Salt Intake:** Avoid adding extra salt to food and limit processed and packaged foods.

- **Maintain a Healthy Weight:** Lose weight if you are overweight.
- **Be Physically Active:** Aim for at least 30 minutes of moderate-intensity exercise (like brisk walking) most days of the week.
- **Eat a Healthy Diet:** Follow a diet rich in fruits, vegetables, and whole grains, and low in saturated fats (like the DASH diet).
- **Stop Smoking and Limit Alcohol:** Complete cessation of tobacco is crucial. Alcohol should be consumed in moderation, if at all.
- **Manage Stress:** Practice relaxation techniques like yoga or meditation.

### Management:

The management of hypertension involves both lifestyle modifications and medication.

1. **Lifestyle Modifications:** These are the cornerstone of management and are the same as the prevention strategies listed above. They are essential for all patients with hypertension, regardless of whether they are on medication.
2. **Medication (Antihypertensive Drugs):** If lifestyle changes are not enough to control blood pressure, medication is prescribed. There are several classes of drugs, and the choice depends on the patient's age, other health conditions, and the severity of the hypertension. Common drug classes include:
  - **Diuretics ("Water Pills"):** Help the body eliminate sodium and water.
  - **ACE Inhibitors and ARBs:** Relax blood vessels.
  - **Calcium Channel Blockers:** Relax the muscles of the blood vessels.
  - **Beta-Blockers:** Make the heart beat with less force.
3. **Regular Monitoring:** It is essential for patients to monitor their blood pressure regularly at home or at a health facility and to have regular follow-up appointments to ensure the treatment is effective and to adjust it as needed.

## 16. Mention the causes, clinical features, complications and management of Acute Laryngitis.

### Causes of Acute Laryngitis:

Acute laryngitis is the inflammation of the larynx (voice box). The most common causes are:

- **Viral Infection:** This is the most frequent cause, often occurring along with an upper respiratory tract infection like the common cold or flu.
- **Vocal Strain:** Overusing your voice by shouting, screaming, or singing loudly can strain the vocal cords and cause inflammation.
- **Bacterial Infection:** Less common than viral causes, but bacteria like *Streptococcus pneumoniae* can cause laryngitis.
- **Irritants:** Inhaling irritants such as cigarette smoke, chemical fumes, or allergens can also lead to laryngitis.

### Clinical Features:

The symptoms of acute laryngitis usually appear suddenly and last for about a week. They include:

- **Hoarseness (Dysphonia):** This is the main symptom. The voice may sound raspy, strained, or be very quiet.
- **Loss of Voice (Aphonia):** In some cases, the person may lose their voice completely.
- **Sore Throat:** A raw or scratchy feeling in the throat.
- **Dry Cough:** A persistent, non-productive cough is common.
- **Feeling of a Lump in the Throat:** A constant need to clear the throat.
- **Other URI Symptoms:** If caused by a virus, it may be accompanied by fever, runny nose, and general body aches.

### Complications:

Complications from acute laryngitis are rare, especially in adults. However, they can occur:

- **Airway Obstruction:** In young children, severe swelling of the larynx can lead to breathing difficulties (a condition known as croup). This is a medical emergency.
- **Spread of Infection:** The infection can potentially spread to other parts of the respiratory tract, leading to bronchitis or pneumonia.
- **Chronic Laryngitis:** If the causes persist (e.g., continuous smoking or vocal strain), the laryngitis can become chronic.

### Management:

Management is primarily focused on relieving symptoms and resting the vocal cords.

1. **Vocal Rest:** This is the most important treatment. The patient should speak as little as possible and avoid whispering, as this also strains the vocal cords.
2. **Hydration:** Drinking plenty of fluids (like warm water, soup, or herbal tea) helps to keep the throat moist and soothe the irritation.
3. **Humidify the Air:** Using a humidifier or inhaling steam from a bowl of hot water can help relieve symptoms.
4. **Avoid Irritants:** The patient should stop smoking and avoid exposure to secondhand smoke and other fumes.
5. **Symptomatic Relief:**
  - **Pain Relievers:** Over-the-counter pain relievers like paracetamol or ibuprofen can help with the sore throat and fever.
  - **Lozenges and Gargles:** Throat lozenges or gargling with warm salt water can provide temporary relief from the sore throat.
6. **Treating the Underlying Cause:**
  - Since most cases are viral, **antibiotics are not effective and should not be used.**
  - If a bacterial infection is strongly suspected, a doctor might prescribe antibiotics.

7. **Referral:** If symptoms are severe (especially breathing difficulty), if the hoarseness lasts for more than 2-3 weeks, or if there are any other signs of complication, the patient should be referred to a doctor for further evaluation to rule out more serious conditions.