

# COMPREHENSIVE HEALTH INFORMATION DATASET FOR RAG SYSTEM

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## 1.0 CARDIOVASCULAR HEALTH

### 1.1 Hypertension (High Blood Pressure)

**Keywords:** Hypertension, High Blood Pressure, Blood Pressure, Systolic, Diastolic, Cardiovascular Disease.



**Overview:** Hypertension is a chronic medical condition where the force of blood against artery walls is consistently too high. It is a major risk factor for heart disease, stroke, and kidney failure. It is often called the "silent killer" because it typically has no warning signs or symptoms.

**Classification:**

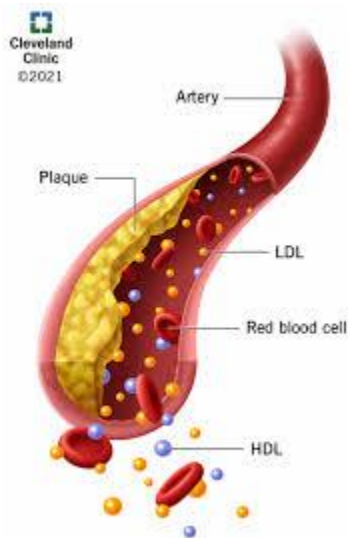
- **Normal:** Systolic <120 mmHg and Diastolic <80 mmHg
- **Elevated:** Systolic 120-129 mmHg and Diastolic <80 mmHg
- **Stage 1 Hypertension:** Systolic 130-139 mmHg or Diastolic 80-89 mmHg
- **Stage 2 Hypertension:** Systolic  $\geq$ 140 mmHg or Diastolic  $\geq$ 90 mmHg

#### Management and Treatment:

- **Lifestyle Modifications:** Key first-line interventions include the DASH (Dietary Approaches to Stop Hypertension) diet, which is rich in fruits, vegetables, and low-fat dairy products with reduced saturated and total fat. Sodium intake should be reduced to less than 2,300 mg per day (ideally 1,500 mg for greater benefit). Regular physical activity (at least 150 minutes of moderate-intensity exercise per week) and maintaining a healthy weight are critical. Limiting alcohol and quitting smoking are also essential.
- **Pharmacological Treatment:** Common first-line medications include Thiazide diuretics, ACE inhibitors, Angiotensin II receptor blockers (ARBs), and Calcium channel blockers. Treatment plans are personalized based on age, race, and comorbidities.

## 1.2 Hyperlipidemia (High Cholesterol)

**Keywords:** Hyperlipidemia, Cholesterol, LDL, HDL, Triglycerides, Statins.



**Overview:** Hyperlipidemia is characterized by high levels of lipids (fats) in the blood, including cholesterol and triglycerides. Elevated Low-Density Lipoprotein (LDL) cholesterol contributes to plaque buildup in arteries (atherosclerosis), increasing the risk of heart attack and stroke.

#### Target Levels:

- **Total Cholesterol:** <200 mg/dL
- **LDL ("Bad") Cholesterol:** <100 mg/dL (for those with heart disease: <70 mg/dL)
- **HDL ("Good") Cholesterol:**  $\geq$ 60 mg/dL (offers protection)
- **Triglycerides:** <150 mg/dL

### Management and Treatment:

- **Therapeutic Lifestyle Changes:** A heart-healthy diet low in trans fats, saturated fats, and refined sugars. Increased intake of soluble fiber (e.g., oats, beans) and omega-3 fatty acids (e.g., fatty fish). Regular exercise can help raise HDL and lower LDL and triglycerides.
  - **Medications:** Statins are the most commonly prescribed class of drugs to lower LDL cholesterol. Other options include Ezetimibe, PCSK9 inhibitors, and Fibrates (primarily for high triglycerides).
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## 2.0 METABOLIC HEALTH

### 2.1 Type 2 Diabetes Mellitus (T2DM)

**Keywords:** Diabetes, Type 2 Diabetes, Blood Sugar, Insulin, HbA1c, Hyperglycemia.



**Overview:** T2DM is a chronic condition that affects the way the body processes blood sugar (glucose). It is characterized by insulin resistance, where the body's cells don't respond normally to insulin, and eventually a lack of sufficient insulin production.

### Diagnosis Criteria (any one of the following):

- **Fasting Plasma Glucose:**  $\geq 126$  mg/dL
- **HbA1c:**  $\geq 6.5\%$
- **Oral Glucose Tolerance Test (OGTT):** 2-hour glucose  $\geq 200$  mg/dL
- **Random Plasma Glucose:**  $\geq 200$  mg/dL with classic symptoms of hyperglycemia

### Management and Treatment:

- **Lifestyle Foundation:** Carbohydrate monitoring, weight management, and consistent physical activity are cornerstones of diabetes management. Medical Nutrition Therapy (MNT) is recommended.

- **Blood Glucose Monitoring:** Self-monitoring of blood glucose (SMBG) or Continuous Glucose Monitors (CGMs) help patients track their levels.
  - **Medications:** First-line medication is typically Metformin. Other classes include SGLT2 inhibitors, GLP-1 receptor agonists (which also promote weight loss), DPP-4 inhibitors, and insulin therapy for advanced cases.
  - **Complication Prevention:** Regular screening for complications (e.g., annual eye exams, foot exams, kidney function tests) is paramount.
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### 3.0 MENTAL HEALTH



#### 3.1 Major Depressive Disorder (MDD)

**Keywords:** Depression, Major Depressive Disorder, Antidepressants, SSRIs, Psychotherapy.

**Overview:** MDD is a common and serious medical illness that negatively affects how you feel, the way you think, and how you act. It causes persistent feelings of sadness and/or a loss of interest in activities once enjoyed.

**Common Symptoms (must include depressed mood or anhedonia for  $\geq 2$  weeks):**

- Depressed mood most of the day.
- Markedly diminished interest or pleasure in all activities (anhedonia).
- Significant weight change or appetite disturbance.
- Insomnia or hypersomnia.
- Psychomotor agitation or retardation.
- Fatigue or loss of energy.
- Feelings of worthlessness or excessive guilt.
- Diminished ability to think or concentrate.
- Recurrent thoughts of death or suicide.

**Management and Treatment:**

- **Psychotherapy:** Cognitive Behavioral Therapy (CBT) and Interpersonal Therapy (IPT) are highly effective evidence-based treatments.

- **Pharmacotherapy:** Selective Serotonin Reuptake Inhibitors (SSRIs) like Sertraline and Escitalopram are first-line medications. Serotonin-Norepinephrine Reuptake Inhibitors (SNRIs) are also commonly used.
- **Combination Therapy:** A combination of medication and psychotherapy is often more effective than either treatment alone for moderate to severe depression.

### 3.2 Generalized Anxiety Disorder (GAD)

**Keywords:** Anxiety, GAD, Worry, CBT, SSRIs.



**Overview:** GAD is characterized by persistent and excessive worry about a number of different things that is difficult to control and is associated with physical symptoms.

#### Common Symptoms:

- Restlessness or feeling keyed up/on edge.
- Being easily fatigued.
- Difficulty concentrating or mind going blank.
- Irritability.
- Muscle tension.
- Sleep disturbance.

**Management and Treatment:** Treatment mirrors that of MDD, with SSRIs, SNRIs, and CBT being first-line interventions. Benzodiazepines are sometimes used for short-term management but are avoided long-term due to risks of dependence and tolerance.

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## 4.0 PREVENTIVE CARE & WELLNESS

## Promoting Wellness and Preventive Care



### 4.1 Recommended Vaccination Schedule (Adults)

**Keywords:** Vaccination, Immunization, Preventive Care, Influenza, COVID-19.

- **Influenza:** Annual vaccination for all individuals aged 6 months and older.
- **Tdap/Td:** Tetanus, diphtheria, and pertussis (Tdap) once, then tetanus and diphtheria (Td) booster every 10 years.
- **COVID-19:** Follow latest CDC guidelines on primary series and updated boosters.
- **Shingles (RZV):** Recombinant zoster vaccine for adults 50 years and older and adults 19+ who are immunocompromised.
- **Pneumococcal (PCV20, PPSV23):** For adults 65+ and those with certain underlying medical conditions.

### 4.2 Cancer Screening Guidelines

**Keywords:** Screening, Cancer, Mammogram, Colonoscopy, Pap Smear.

- **Breast Cancer:** Women aged 40-49 should discuss with their doctor. Women 50-74 at average risk should have a mammogram every two years.
- **Colorectal Cancer:** Adults aged 45-75 should be screened. Methods include colonoscopy every 10 years, or FIT stool test annually.
- **Cervical Cancer:** Women aged 21-29 should have a Pap test every 3 years. Women 30-65 should have a Pap test every 3 years or a co-test (Pap + HPV test) every 5 years.

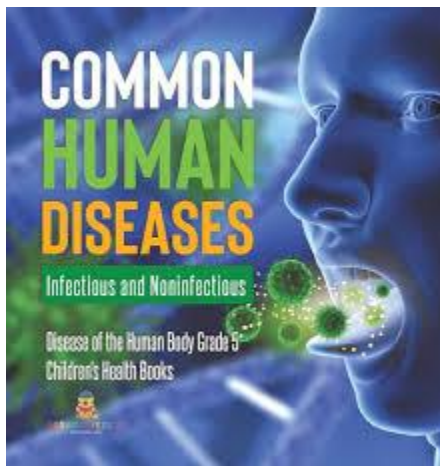
### 4.3 Nutrition and Physical Activity

**Keywords:** Nutrition, Diet, Exercise, Physical Activity, BMI.

- **Body Mass Index (BMI):** A screening tool (not diagnostic). Healthy weight is a BMI of 18.5 to 24.9.
  - **Dietary Guidelines:** Emphasize a variety of fruits and vegetables, whole grains, lean protein, and low-fat dairy. Limit added sugars, saturated fats, and sodium.
  - **Physical Activity:** Adults should get at least **150 minutes of moderate-intensity** (e.g., brisk walking) or **75 minutes of vigorous-intensity** aerobic activity per week, plus muscle-strengthening activities on 2 or more days.
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## 5.0 COMMON INFECTIOUS DISEASES



### 5.1 Influenza (The Flu)

**Keywords:** Influenza, Flu, Virus, Antiviral, Oseltamivir.

**Overview:** A contagious respiratory illness caused by influenza viruses. It can cause mild to severe illness and can lead to hospitalization and death.

**Symptoms:** Fever, cough, sore throat, runny/stuffy nose, muscle/body aches, headaches, fatigue.

#### **Prevention and Treatment:**

- **Primary Prevention:** Annual vaccination.
- **Antiviral Drugs:** Prescription medications like Oseltamivir (Tamiflu) or Zanamivir (Relenza) can treat the flu. They work best when started within 48 hours of symptom onset.

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change frequently. For any health concerns, individuals must consult a qualified healthcare provider.