Aanantha
Yoga & Meditation

BASIC ANATOMY
WITH YOGIC APPROACH

The foundation of yoga is to understand one self physically, mentally & spiritually.

Contents

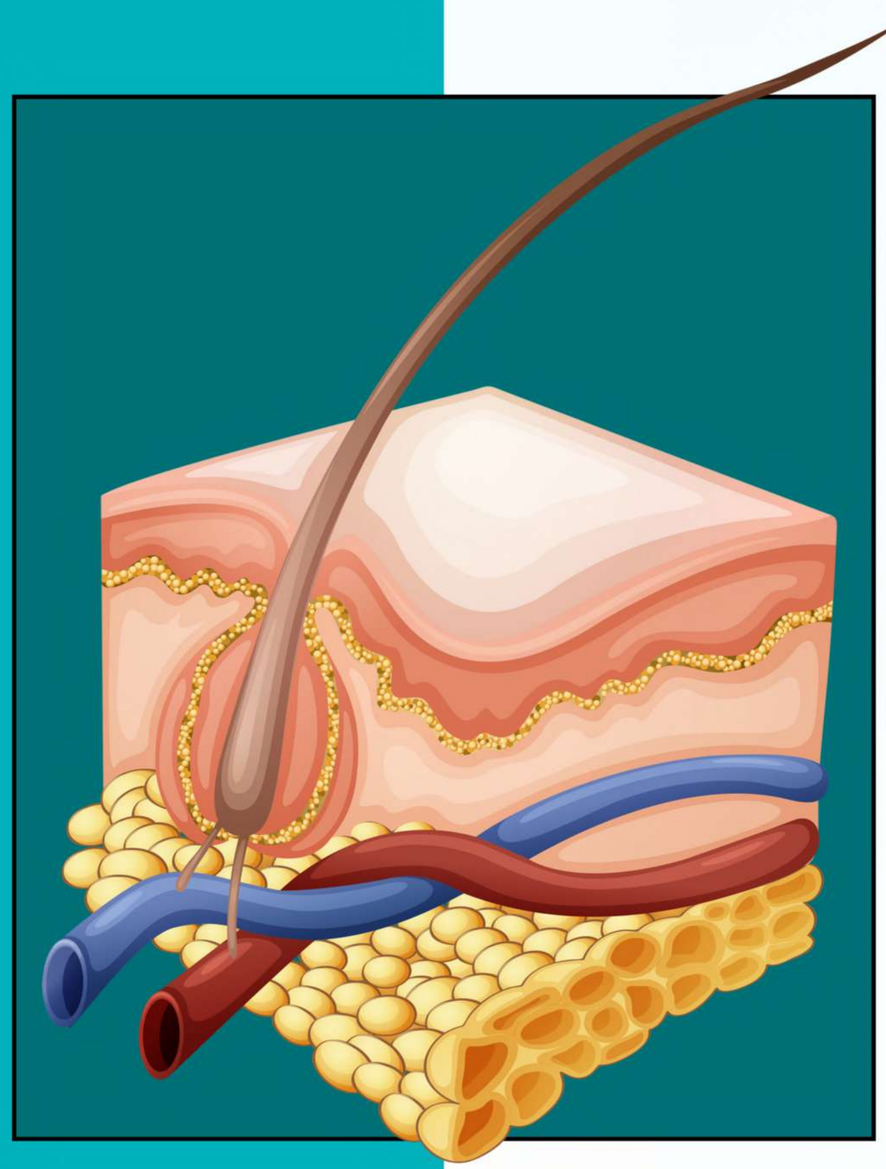
- Main Systems of the Human Body
- Dietary approach
- Yogic approach

Main Systems of the Human Body

SYSTEMS

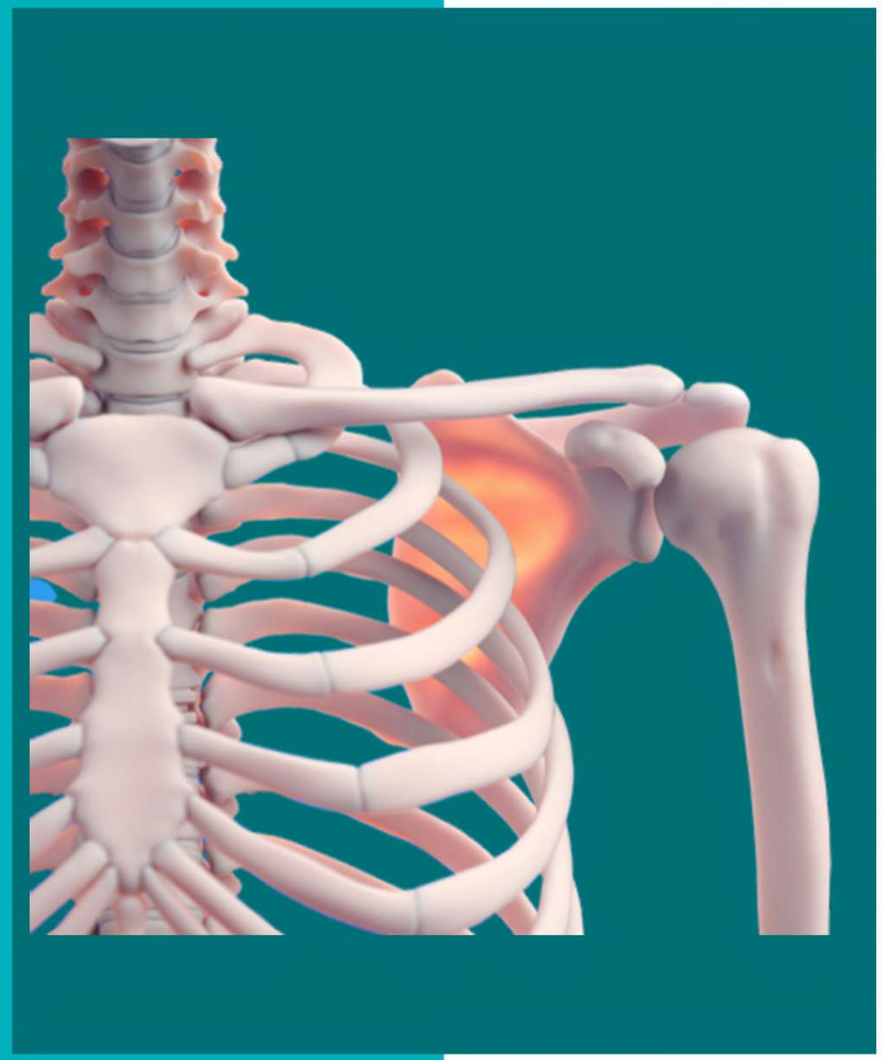
01 Main Systems of the Human Body

1. Integumentary System
2. Skeletal System
3. Muscular System
4. Nervous System
5. Endocrine System
6. Cardiovascular (Circulatory) System
7. Immune (Lymphatic) System
8. Respiratory System
9. Digestive System
10. Excretory (Urinary) System
11. Reproductive System



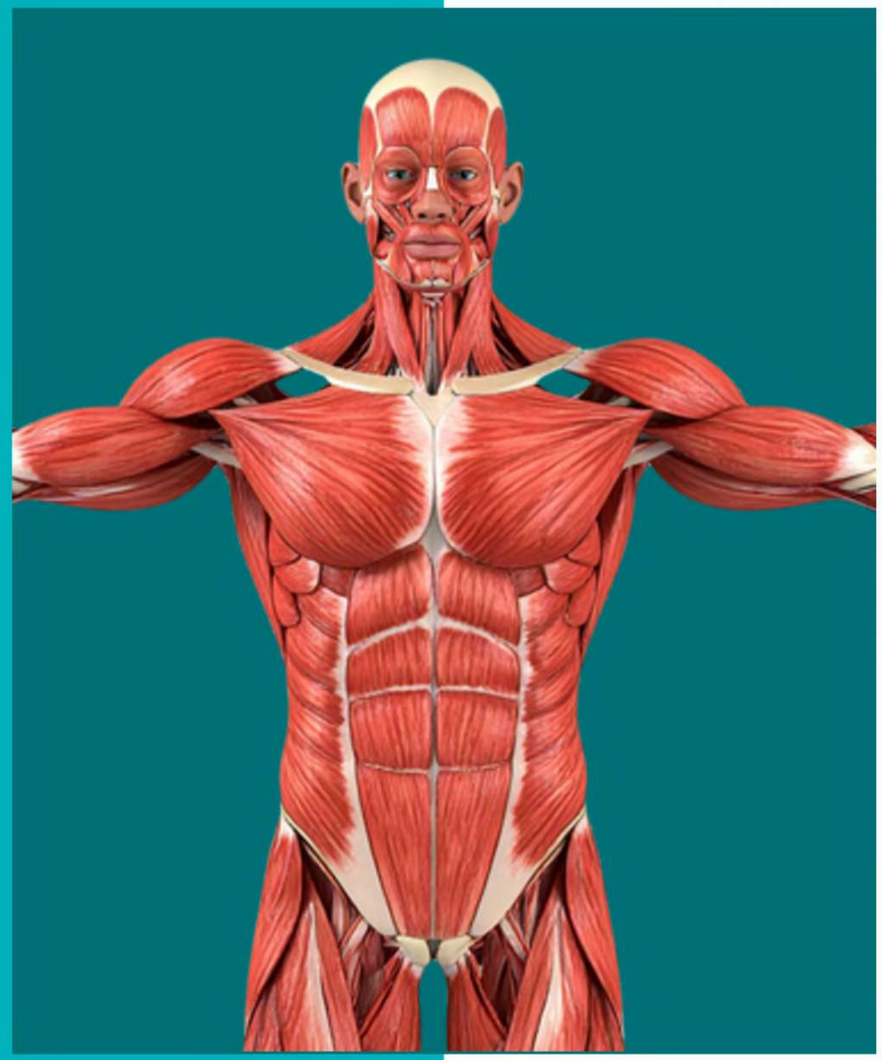
1. Integumentary System

- **Main parts:**
  Skin, hair, nails, sweat and oil glands.
- **Functions:**
  - Acts as the body's first line of defense against infection.
  - Regulates body temperature through sweating and blood flow control.
  - Prevents dehydration by reducing water loss.
  - Contains sensory receptors for touch, pressure, pain, and temperature.
  - Produces Vitamin D when exposed to sunlight.



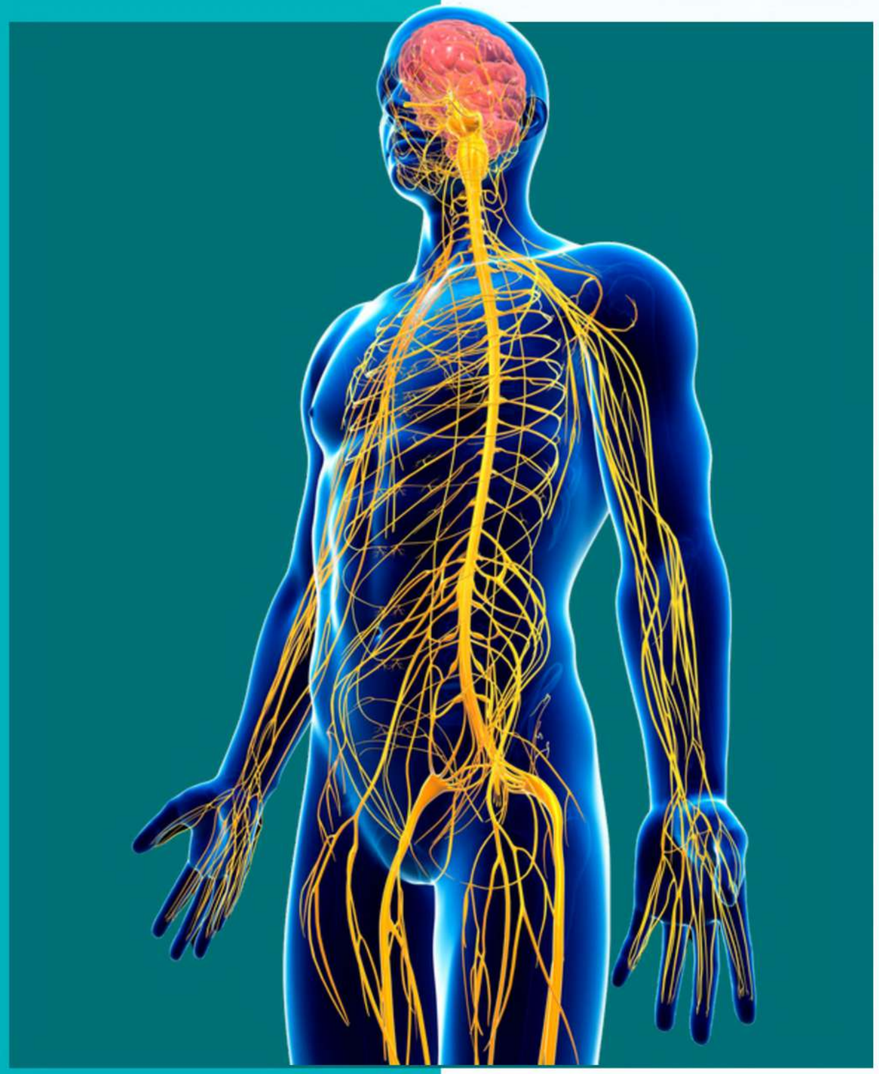
2.Skeletal System

- **Main parts:**
  Bones, joints, ligaments, cartilage.
- **Functions:**
- Provides structural support and shape to the body.
- Protects vital organs (skull protects brain, rib cage protects heart/lungs).
- Works with muscles for movement.
- Stores minerals like calcium and phosphorus.
- Produces blood cells in the bone marrow (hematopoiesis).



3.Muscular System

- **Main types:**
  Skeletal muscle, smooth muscle, cardiac muscle.
- **Functions:**
- Enables movement of the body and internal organs.
- Maintains posture and stabilizes joints.
- Produces heat during contraction (important for body temperature control).
- Involuntary muscles (like in intestines) control internal movements like digestion.

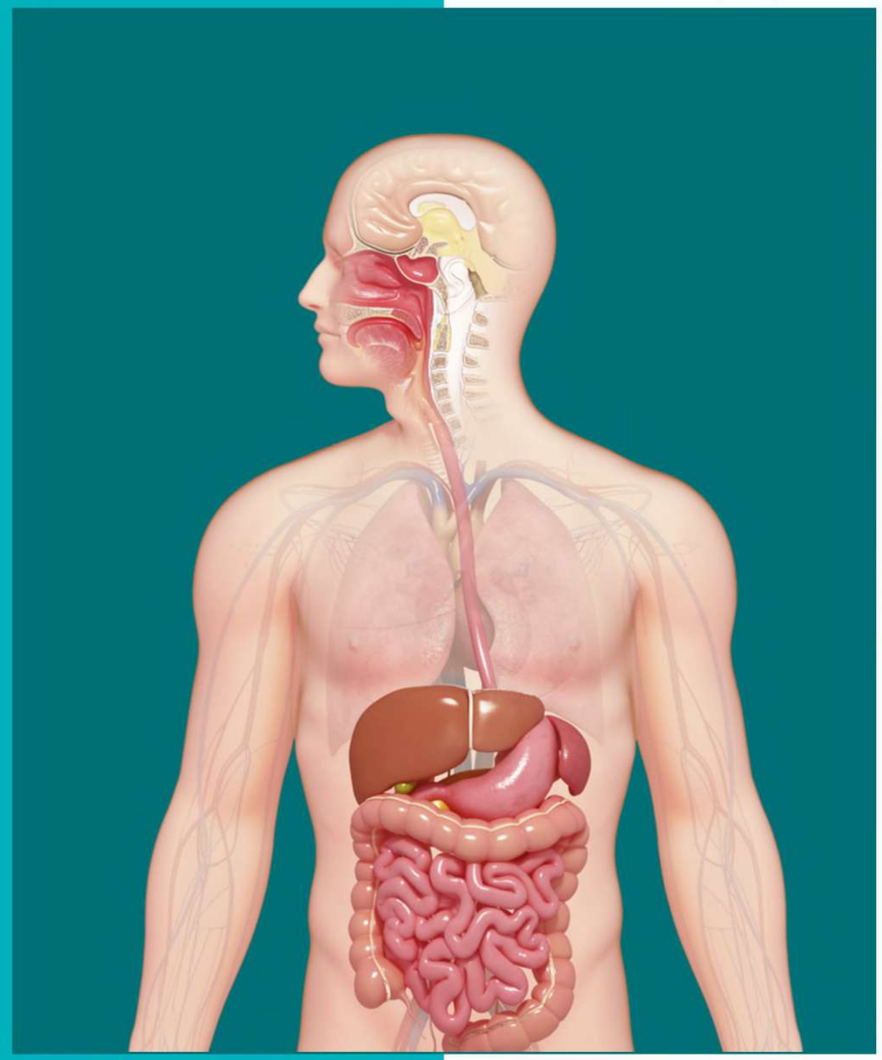


4.Nervous System

- **Main parts:**

Brain, spinal cord, peripheral nerves, sense organs.

- **Functions:**
- Controls and coordinates all body activities.
- Receives sensory input, processes information, and sends responses.
- Regulates voluntary and involuntary actions.
- Responsible for thought, memory, emotions, and reflexes.
- Works with endocrine system to maintain homeostasis.

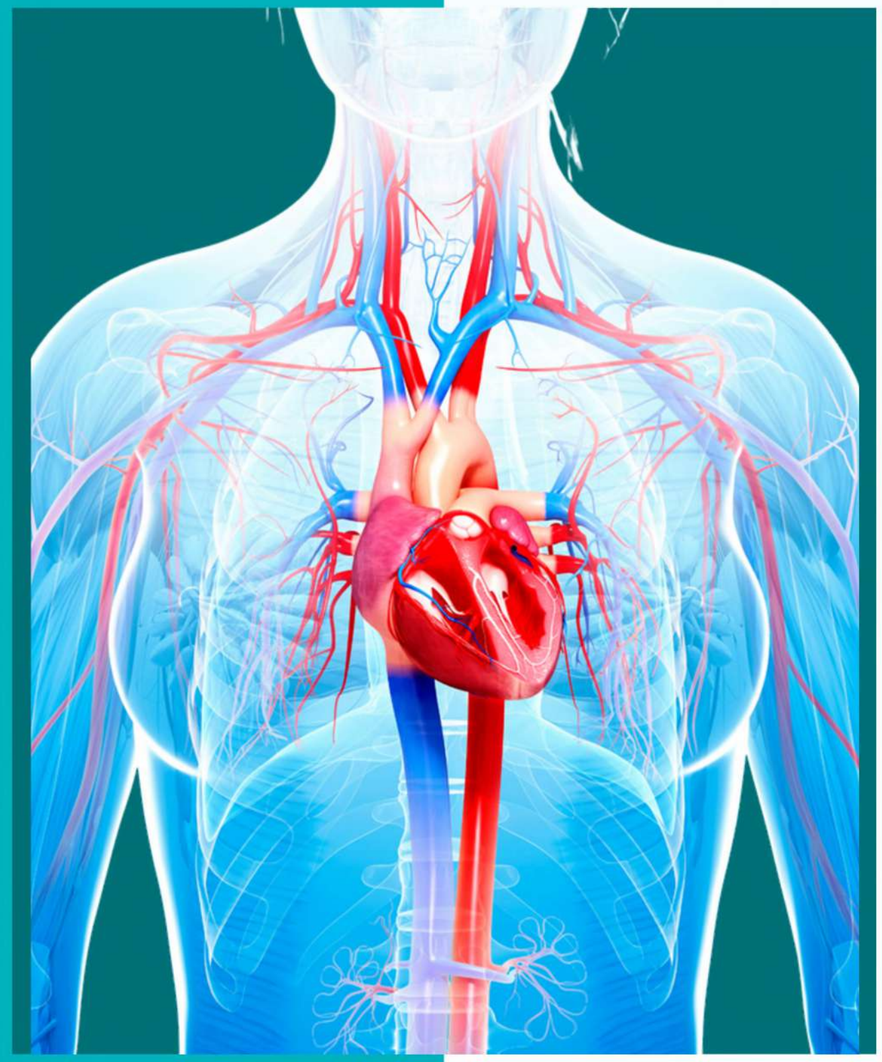


5.Endocrine System

- **Main parts:**

Pituitary gland, thyroid, adrenal glands, pancreas, gonads, hypothalamus, pineal gland.

- **Functions:**
- Produces hormones that regulate body processes like metabolism, growth, reproduction, and mood.
- Works slower but has long-lasting effects compared to the nervous system.
- Maintains balance of water, salts, and nutrients in the body.

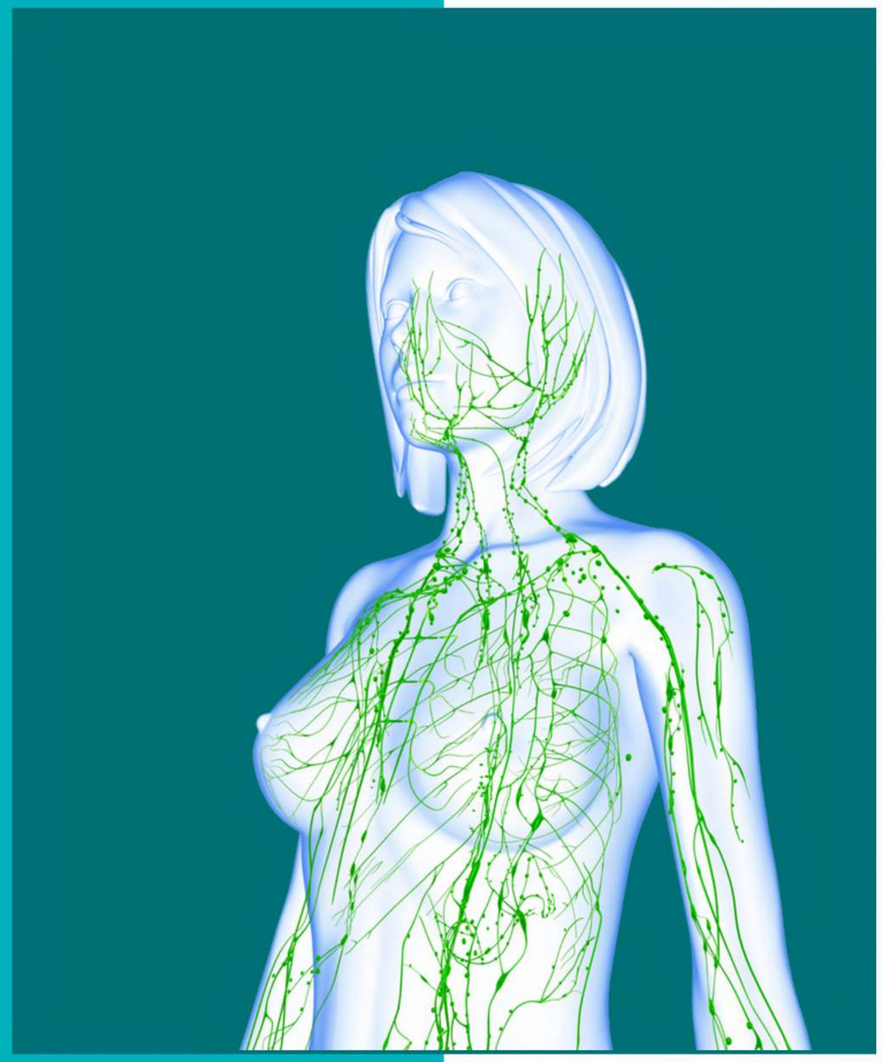


6.Cardiovascular System

- **Main parts:**

Heart, blood, blood vessels (arteries, veins, capillaries).

- **Functions:**
- Pumps and circulates blood throughout the body.
- Transports oxygen, nutrients, hormones, and waste products.
- Helps regulate body temperature and pH balance.
- Protects against disease through white blood cells and antibodies.

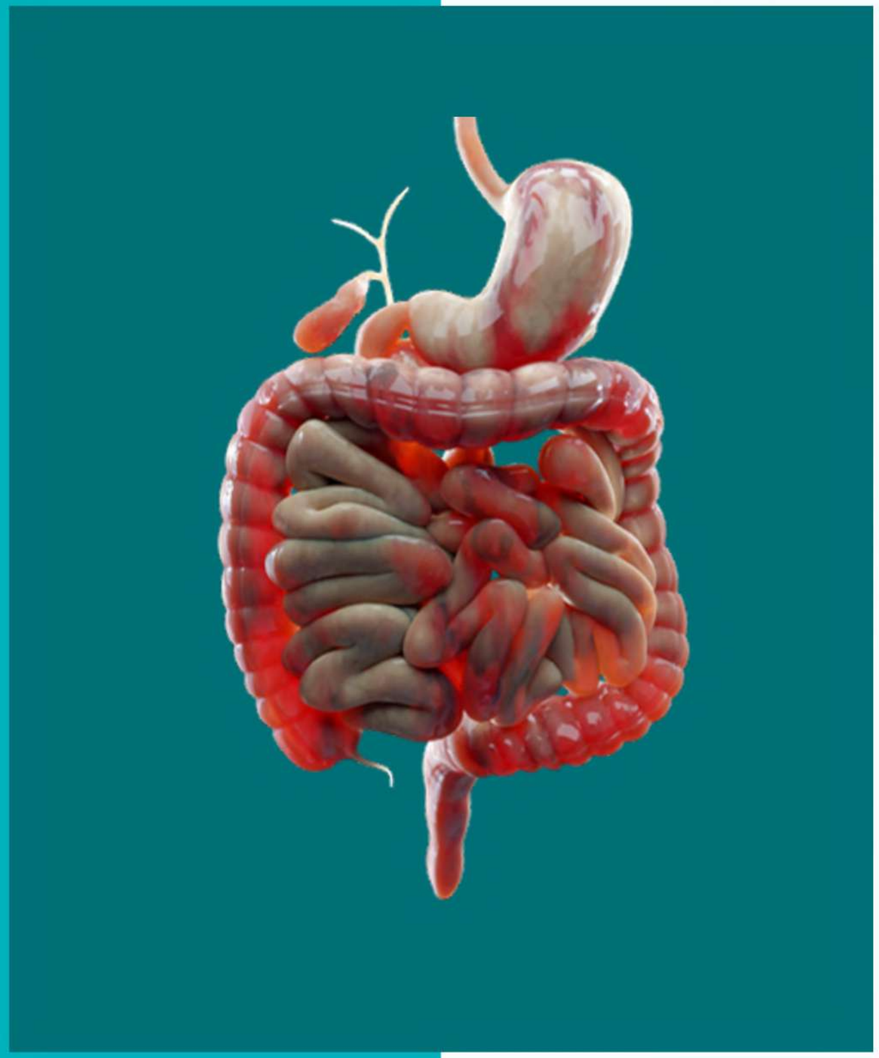


7.Lymphatic System

- **Main parts:**
- Lymph nodes, lymph vessels, spleen, thymus, tonsils, bone marrow.
- **Functions:**
- Defends the body against pathogens (bacteria, viruses, parasites).
- Removes excess fluid from tissues and returns it to the bloodstream.
- Helps in absorption of dietary fats.
- Produces immune cells (lymphocytes) for fighting infections.

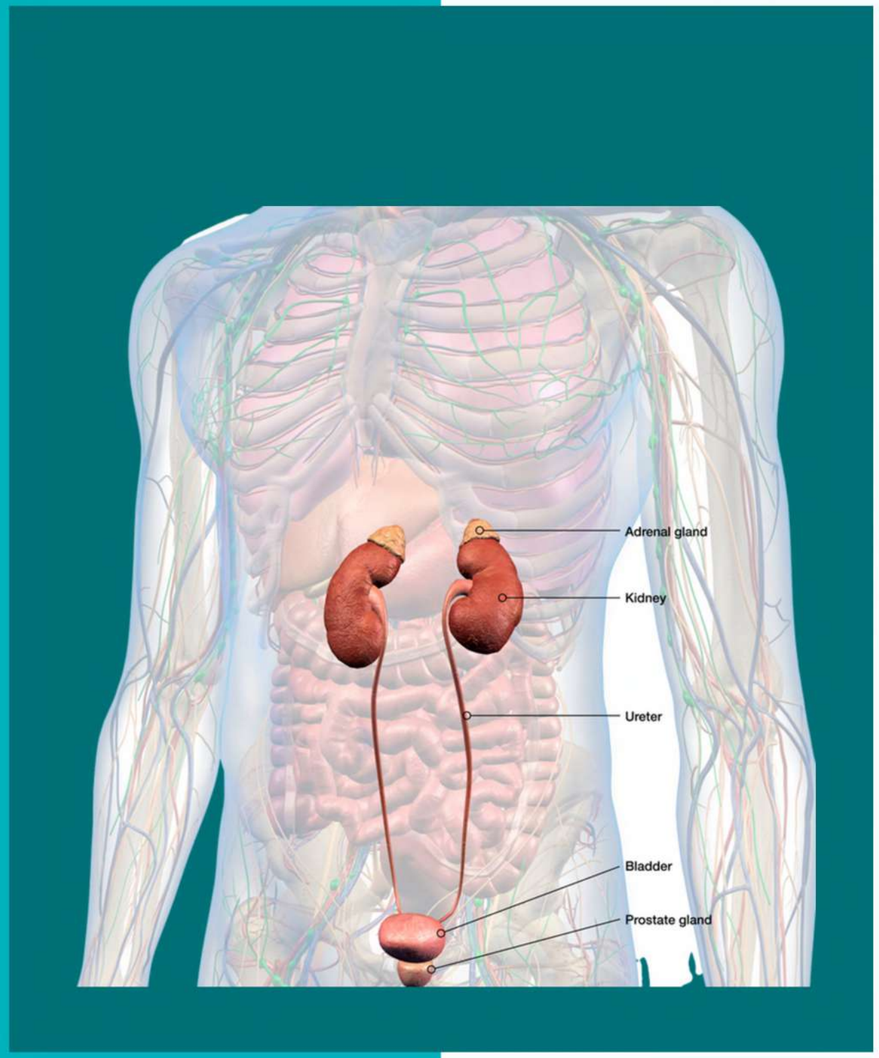
8. Respiratory System

- **Main parts:**
- Nose, nasal cavity, pharynx, larynx, trachea, bronchi, lungs, alveoli.
- **Functions:**
- Supplies oxygen to the blood and removes carbon dioxide.
- Helps regulate blood pH.
- Filters, warms, and humidifies the air we breathe.
- Produces sounds for speech.



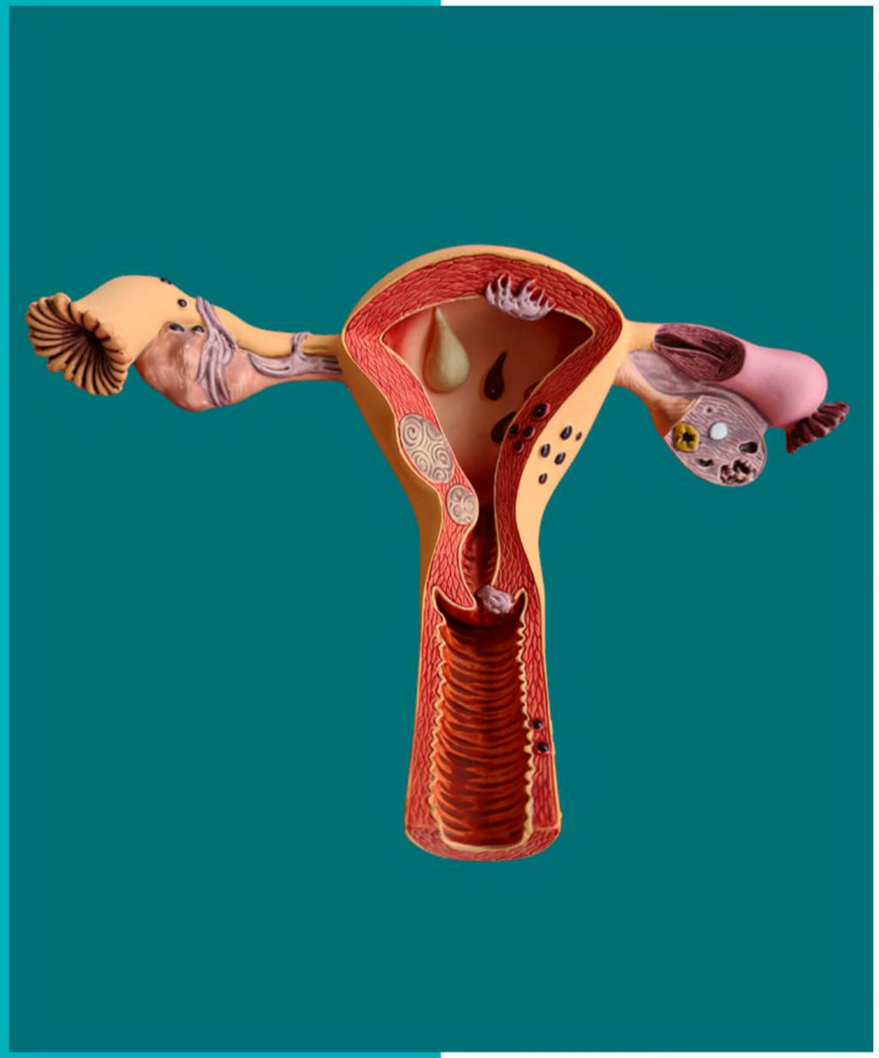
9. Digestive System

- **Main parts:**
- Mouth, esophagus, stomach, small intestine, large intestine, liver, pancreas, gallbladder.
- **Functions:**
- Breaks down food into nutrients for absorption.
- Eliminates undigested waste.
- Produces enzymes and digestive juices for chemical breakdown.
- Maintains a healthy gut for immunity and digestion.



10. Excretory System

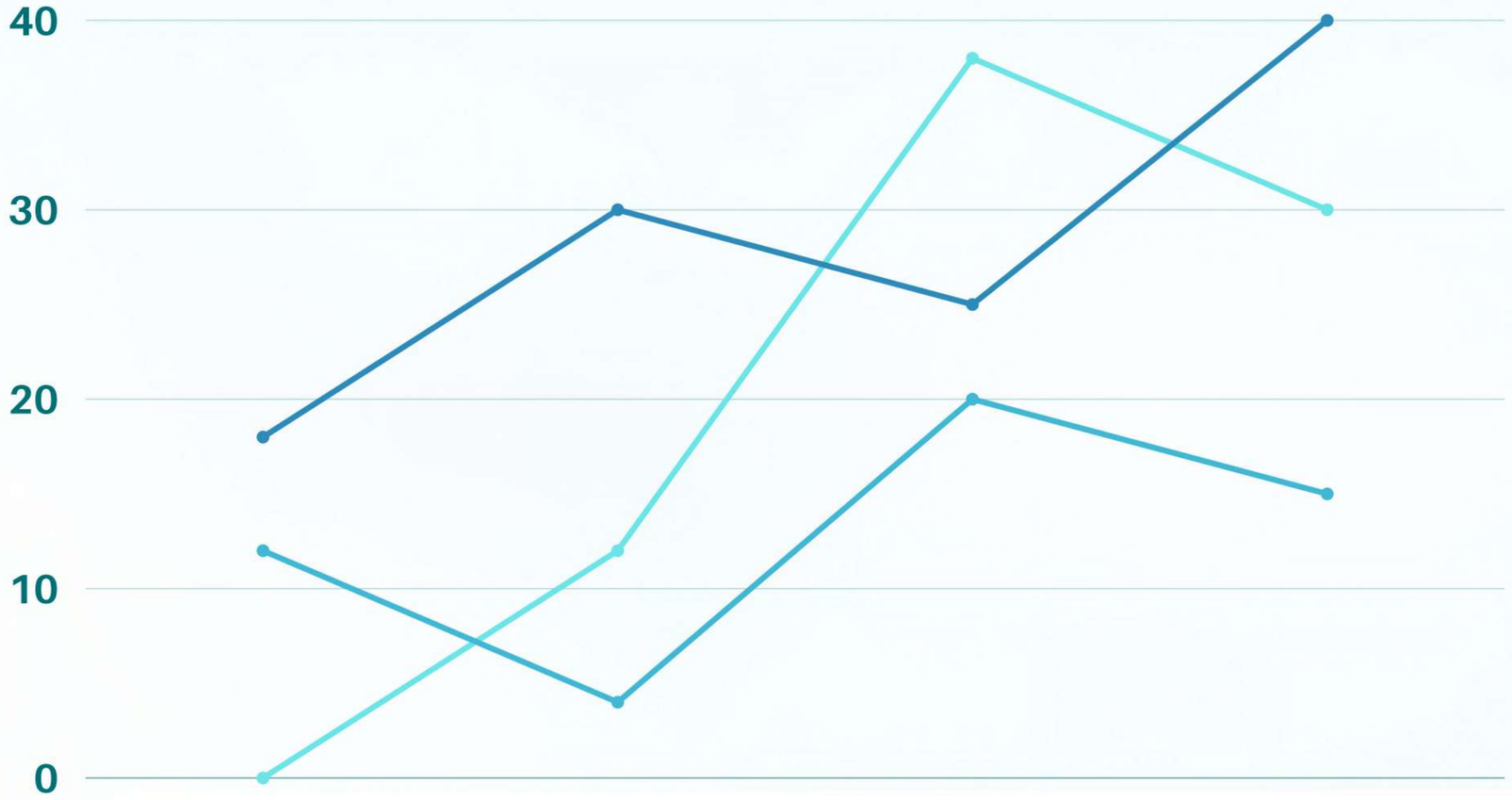
- **Main parts:**
- Kidneys, ureters, bladder, urethra.
- **Functions:**
- Removes waste products from the blood.
- Maintains fluid, electrolyte, and pH balance.
- Regulates blood pressure.
- Produces hormones for red blood cell production.



11.Reproductive System

- **Main parts:**
- Male: Testes, penis, prostate gland .
- Female: Ovaries, uterus, fallopian tubes, vagina.
- **Functions:**
- Produces gametes (sperm in males, eggs in females).
- Enables fertilization and development of offspring.
- Produces sex hormones that influence secondary sexual characteristics.

02 Dietary approach



1. Integumentary System (Skin, Hair, Nails)

- Supports:
  - Vitamin C (citrus fruits, guava etc) – collagen production.
  - Vitamin E (almonds, groundnuts, sunflower seeds) – protects from oxidative damage.
  - Omega-3 fatty acids (flaxseeds, walnuts, fatty fish) – skin hydration.
  - Adequate water intake.
- Disrupts:
  - Excess refined sugar – causes collagen breakdown, premature aging.
  - High-sodium diet – skin dehydration.
- Damages/Causes Disease:
  - Trans fats + junk oils – trigger acne, inflammation.
  - Severe vitamin deficiencies – scurvy (Vit C), dermatitis (niacin), hair loss (biotin).

2.Skeletal System (Bones, Joints)

- Supports:
  - Calcium-rich foods (milk, yogurt, leafy greens, sesame seeds).
  - Vitamin D (sunlight, fortified foods, mushrooms) – aids calcium absorption.
  - Magnesium (pumpkin seeds, spinach) – bone mineralization.
  - Protein for collagen formation.
- Disrupts:
  - High salt intake – causes calcium loss in urine.
  - Excess caffeine – reduces calcium absorption.
- Damages/Causes Disease:
  - Chronic low calcium & vitamin D – osteoporosis, rickets.
  - High soft drink intake (phosphoric acid) – bone weakening.

3. Muscular System

- Supports:
  - Lean protein (eggs, chicken, lentils, soy) – muscle repair.
  - Potassium & magnesium (banana, spinach) – prevent cramps.
  - Complex carbs (brown rice, oats) – fuel for workouts.
- Disrupts:
  - Very low-carb diets without adaptation – muscle fatigue.
  - Excess alcohol – protein synthesis suppression.
- Damages/Causes Disease:
  - Chronic protein deficiency – muscle wasting (sarcopenia).
  - Severe electrolyte imbalance – muscle paralysis.

4.Nervous System

- Supports:
  - Omega-3 fatty acids (chia, fish) – nerve cell membrane health.
  - Vitamin B-complex (whole grains, eggs, legumes) – neurotransmitter production.
  - Antioxidants (berries, dark chocolate) – protect neurons from oxidative damage.
- Disrupts:
  - Excess refined carbs & sugar – mood swings, brain fog.
  - Overuse of stimulants – nervous exhaustion.
- Damages/Causes Disease:
  - Severe B12 deficiency – nerve damage, paralysis.
  - Chronic high alcohol intake – brain shrinkage, neuropathy.

5.Endocrine System

- Supports:
  - Iodine (seaweed, iodized salt) – thyroid health.
  - Healthy fats (avocado, nuts) – hormone production.
  - Zinc (pumpkin seeds, shellfish) – reproductive hormones.
- Disrupts:
  - Highly processed foods with endocrine-disrupting chemicals (BPA, trans fats).
  - Soy in excess – may mildly interfere with thyroid in iodine-deficient individuals.
- Damages/Causes Disease:
  - Long-term high-sugar diet – insulin resistance, diabetes.
  - Severe iodine deficiency – goiter, hypothyroidism.

6. Cardiovascular System

- Supports:
  - Whole grains
  - Omega-3 fatty acids – reduce inflammation.
  - Leafy greens – will help in production for healthy blood vessels.
- Disrupts:
  - High-salt diet – raises blood pressure.
  - Excess saturated fat from poor sources – artery narrowing.
- Damages/Causes Disease:
  - Trans fats – heart attacks, atherosclerosis.
  - Chronic sugar overload – damages blood vessels.

7. Lymphatic / Immune System

- Supports:
  - Vitamin C & A (fruits, carrots) – immune cell production.
  - Probiotics (yogurt, fermented foods) – gut immunity.
  - Protein – antibodies are made from amino acids.
- Disrupts:
  - Excess alcohol – weakens immunity.
  - Constant processed food intake – promotes chronic inflammation.
- Damages/Causes Disease:
  - Severe malnutrition – immune collapse.
  - Excess added sugars – promotes infections.

8. Respiratory System

- Supports:
  - Antioxidant-rich foods (tomatoes, citrus) – protect lung tissue.
  - Hydration – keeps airways moist.
  - Omega-3 fatty acids – reduce airway inflammation.
- Disrupts:
  - Excess processed meats (nitrates) – higher respiratory disease risk.
  - High dairy for some – may worsen mucus in sensitive individuals.
- Damages/Causes Disease:
  - High exposure to fried oils – lung inflammation.
  - Chronic high-sugar & low-antioxidant diet – worsens asthma/COPD risk.

9. Digestive System

- Supports:
  - Fiber-rich foods (vegetables, whole grains) – bowel health.
  - Probiotics – maintains gut health
  - Adequate hydration – smooth digestion.
- Disrupts:
  - Low-fiber diet – constipation.
  - Overeating fried/junk food – indigestion, bloating.
- Damages/Causes Disease:
  - Excess alcohol – gastritis, ulcers.
  - Very low nutrient intake – gut lining damage.

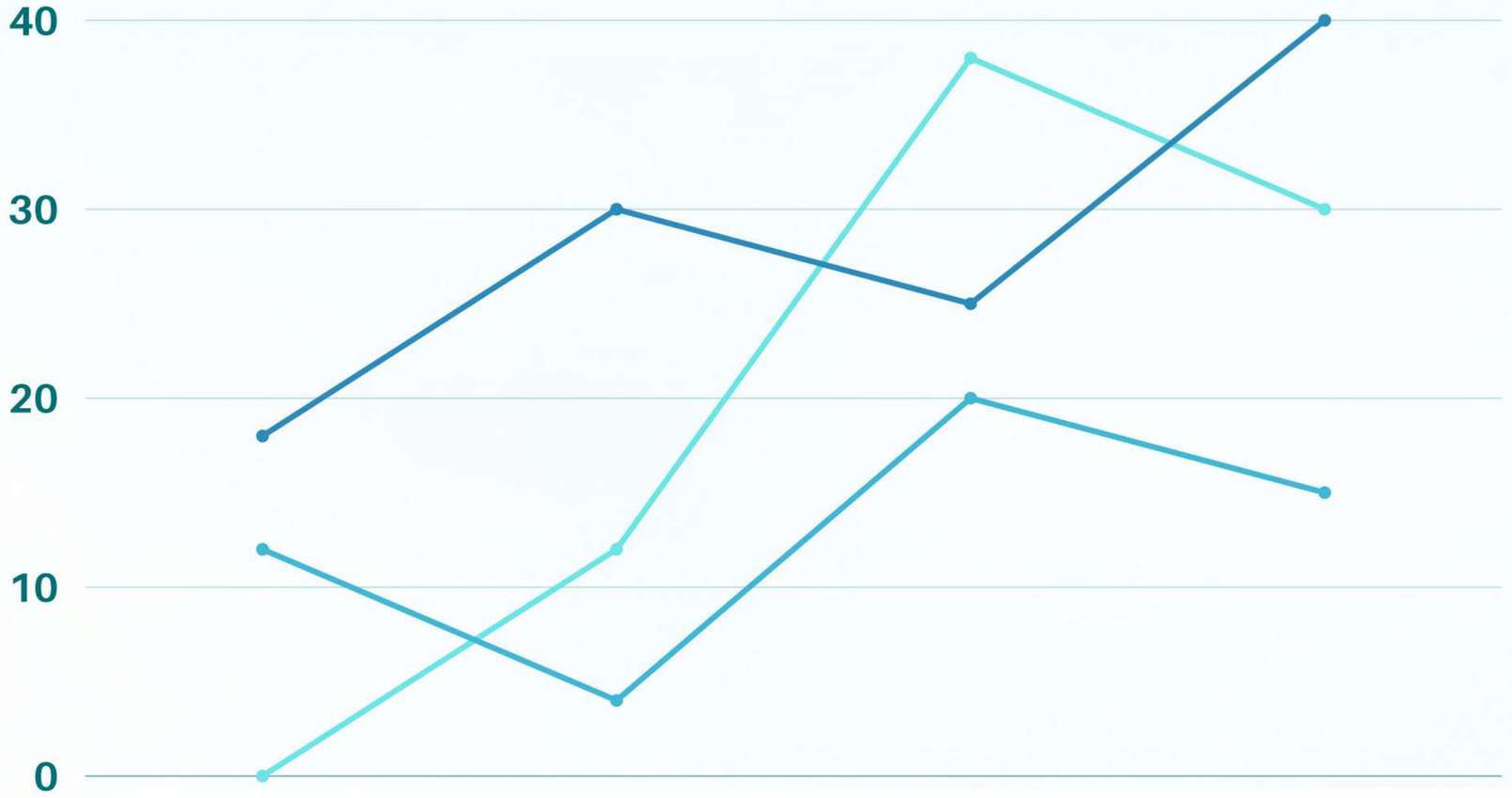
10. Urinary System

- Supports:
  - Adequate water – kidney filtration.
  - Cranberries – prevent urinary infections.
  - Balanced electrolytes.
- Disrupts:
  - Very high salt diet – kidney stress.
  - Excess animal protein without balance – kidney strain.
- Damages/Causes Disease:
  - Long-term dehydration – kidney stones, failure.
  - Chronic high-sugar diet – diabetic kidney disease.

11. Reproductive System

- Supports:
  - Zinc (nuts, seeds, fish) – fertility.
  - Healthy fats – sex hormone production.
  - Antioxidants – protect sperm/egg health.
- Disrupts:
  - Excess alcohol – lowers testosterone/estrogen balance.
  - Excess caffeine – may affect fertility.
- Damages/Causes Disease:
  - Chronic malnutrition – loss of menstruation or low sperm count.
  - Endocrine-disrupting chemicals in processed foods – infertility risk.

03
Yogic approach



1. Skeletal System (Bones, Joints, Ligaments)

Goal: Strengthen bones, improve posture, enhance joint mobility.

Asanas:

- Tadasana (Mountain Pose) – Improves posture and spinal alignment.
- Vrikshasana (Tree Pose) – Enhances balance and bone density.
- Trikonasana (Triangle Pose) – Opens joints, stretches ligaments.
- Setu Bandhasana (Bridge Pose) – Strengthens spine, hips, and knees.
- Utkatasana (Chair Pose) – Builds bone mass in legs and hips.

Pranayama:

- Anulom Vilom (Alternate Nostril Breathing) – Improves oxygen flow to bones/joints.
- Kapalabhati – Enhances circulation, indirectly aiding nutrient delivery to bone cells

2. Muscular System

- Goal: Build strength, endurance, flexibility.
- Asanas:
- Chaturanga Dandasana (Low Plank) – Strengthens upper body and core.
- Virabhadrasana I & II (Warrior Poses) – Improves muscle endurance.
- Navasana (Boat Pose) – Core strength.
- Salabhasana (Locust Pose) – Strengthens back extensors.
- Adho Mukha Svanasana (Downward Dog) – Stretches hamstrings, calves, shoulders.
- Pranayama:
- Bhastrika (Bellows Breath) – Increases muscular oxygen supply.
- Ujjayi Breath – Builds stamina during asana practice.

3. Nervous System

Goal: Improve brain function, coordination, relaxation.

Asanas:

- Padmasana (Lotus Pose) – Calms and focuses mind.
- Balasana (Child's Pose) – Relieves nervous tension.
- Paschimottanasana (Seated Forward Bend) – Activates parasympathetic system.
- Sirsasana (Headstand) – Increases cerebral blood flow.
- Halasana (Plow Pose) – Calms nerves.

Pranayama:

- Nadi Shodhana (Alternate Nostril Breathing) – Balances brain hemispheres.
- Bhramari (Bee Breath) – Soothes nerves, reduces stress.

4. Circulatory System (Heart & Blood Vessels)

Goal: Enhance blood circulation, strengthen heart.

Asanas:

- Surya Namaskar (Sun Salutations) – Improves overall circulation.
- Ustrasana (Camel Pose) – Expands chest, improves cardiac efficiency.
- Ardha Matsyendrasana (Half Spinal Twist) – Boosts venous return.
- Setu Bandhasana (Bridge Pose) – Improves blood flow to heart.

Pranayama:

- Anulom Vilom – Improves oxygenation and heart health.
- Sheetali/Sheetkari – Cools the body, reduces blood pressure.

5. Respiratory System

Goal: Improve lung capacity, oxygen exchange, and breath control.

Asanas:

- Bhujangasana (Cobra Pose) – Expands chest, improves lung elasticity.
- Matsyasana (Fish Pose) – Opens rib cage.
- Dhanurasana (Bow Pose) – Improves respiratory muscles.
- Trikonasana (Triangle Pose) – Enhances breathing depth.

Pranayama:

- Deep Diaphragmatic Breathing – Strengthens respiratory muscles.
- Kapalabhati – Cleanses lungs.
- Bhastrika – Increases lung capacity.

6. Digestive System

Goal: Improve digestion, absorption, and metabolism.

Asanas:

- Pavanamuktasana (Wind-Relieving Pose) – Relieves bloating, gas.
- Ardha Matsyendrasana (Half Twist) – Stimulates digestive organs.
- Uttanasana (Forward Bend) – Aids peristalsis.
- Halasana (Plow Pose) – Stimulates digestive juices.

Pranayama:

- Agnisara Kriya – Activates digestive fire.
- Kapalabhati – Improves gut motility.

7. Endocrine System (Hormones)

Goal: Balance hormonal secretions.

Asanas:

- Sarvangasana (Shoulder Stand) – Stimulates thyroid/parathyroid.
- Matsyasana (Fish Pose) – Supports thyroid health.
- Paschimottanasana – Calms adrenal glands.
- Bhujangasana – Stimulates pancreas.

Pranayama:

- Nadi Shodhana – Balances hormonal function.
- Bhramari – Reduces stress-related cortisol spikes.

8. Urinary System

Goal: Support kidney and bladder health.

Asanas:

- Supta Baddha Konasana (Reclined Bound Angle) – Improves pelvic circulation.
- Bhujangasana – Stimulates kidney region.
- Setu Bandhasana – Improves urinary function.

Pranayama:

- Anulom Vilom – Improves kidney oxygenation.
- Sheetali – Detoxifying, reduces inflammation.

9. Reproductive System

Goal: Enhance reproductive health, hormonal balance.

Asanas:

- Baddha Konasana (Bound Angle) – Improves pelvic circulation.
- Malasana (Garland Pose) – Strengthens pelvic floor.
- Ustrasana – Stimulates reproductive glands.

Pranayama:

- Bhramari – Relieves stress affecting reproduction.
- Deep Belly Breathing – Improves pelvic blood flow.

10. Lymphatic & Immune System

Goal: Boost immunity, lymph drainage.

Asanas:

- Viparita Karani (Legs-Up-the-Wall) – Aids lymph circulation.
- Setu Bandhasana – Stimulates thymus.
- Twists (Ardha Matsyendrasana) – Detoxifies lymph.

Pranayama:

- Kapalabhati – Detoxifies body.
- Bhastrika – Boosts immune activity.

11. Reproductive System

Goal: Balance hormones, improve reproductive organ health.

Asanas:

- Baddha Konasana (Bound Angle Pose) – Enhances blood flow to pelvic region.
- Supta Baddha Konasana (Reclined Bound Angle Pose) – Relaxes reproductive organs.
- Bhujangasana (Cobra Pose) – Stimulates endocrine glands and boosts reproductive vitality.
- Paschimottanasana (Seated Forward Bend) – Balances hormonal functions.

Pranayama:

- Anulom Vilom (Alternate Nostril Breathing) – Harmonizes hormonal system and reduces stress.
- Sheetali Pranayama (Cooling Breath) – Calms reproductive nerves and balances hormones.

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