

DIGESTIVE SYSTEM

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Abstract: *Medical sterilization and infection control constitute the core foundation of safe medical practice and patient protection. In modern healthcare systems, the risks associated with microbial contamination, cross-infection, and hospital-acquired infections (HAIs) remain among the most significant global health challenges. Sterilization aims at the complete destruction of microorganisms, including highly resistant bacterial spores, viruses, fungi, protozoa, and prions. Infection control, in turn, is a broad, systematic approach that involves hygiene discipline, environmental sanitation, aseptic protocols, proper use of personal protective equipment, safe waste disposal, ventilation systems, antibiotic stewardship, outbreak management, and continual monitoring programs. As patient volume, surgical procedures, and invasive diagnostic interventions increase worldwide, the need for strict sterilization procedures becomes more critical. The growing threat of antimicrobial resistance adds further urgency to improving sterilization technologies and adherence to infection control protocols. Modern sterilization includes autoclaving, dry heat, ethylene oxide gas sterilization, hydrogen peroxide plasma sterilization, ozone sterilization, peracetic acid processing, and gamma irradiation. Infection control encompasses hand hygiene, PPE, surface disinfection, isolation precautions, environmental microbiological surveillance, and high-level reprocessing systems.*

Keywords: *Degection ,Nutrients, Stomach Small intestine,Absorption, Enzymes,Food breakdown, Gastrointestinal tract, Waste*

Incrodution

The digestive system is an essential system of the human body that helps break down food into smaller parts that the body can use for energy and growth. Digestion begins in the mouth and continues through different organs until waste is removed from the body. Without proper digestion, the body would not receive the nutrients it needs to stay healthy.

Main Body

The digestive system consists of several organs that work together to process food. The journey of digestion starts in the mouth where teeth break food into smaller pieces and saliva softens it. Saliva contains enzymes that begin breaking down carbohydrates. From the

mouth, food moves into the pharynx and slides down the esophagus, which uses wave like movements to push food toward the stomach .

The stomach is a muscular organ that mixes food with strong digestive acids and enzymes. These acids help break proteins into smaller molecules and turn solid food into a semi liquid mixture called chyme . The stomach muscles contract regularly to ensure the food mixes well with digestive juices.

Next, the chyme enters the small intestine , the main organ of digestion and absorption. The small intestine receives bile from the liver and enzymes from the pancreas, and carbohydrates into tiny molecules . The walls of the small intestine are covered with villi tiny finger like projections that absorb nutrients into the bloodstream.

After most nutrients are absorbed, the remaining waste material passes into the large intestine . Here , water and minerals become more solid, forming feces. The large intestine also contains beneficial bacteria that help break down certain substances and maintain digestive health.

Conclusion

In conclusion, the digestive system plays a vital role in maintaining health and life. Each organ in this system performs a specific function that helps the body break down food and absorb necessary nutrients. A healthy digestive system provides energy , supports growth, and maintains overall body function . Proper digestion is essential for a healthy and strong body.

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