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LIVER PHYSIOLOGY AND ITS FUNCTIONS

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Abstract *The liver is a vital organ that plays a crucial role in maintaining homeostasis within the human body. It is responsible for various physiological functions, including metabolism, detoxification, protein synthesis, and bile production. This article provides an overview of liver physiology and its essential functions.*

Keywords: Liver, *metaboliz*

Introduction The liver is the largest internal organ in the human body, weighing approximately 1.5 kg in an adult. It is located in the upper right quadrant of the abdomen and performs a wide range of functions essential for survival. The liver receives blood from both the hepatic artery and the portal vein, allowing it to filter and process nutrients, toxins, and metabolic byproducts.

Metabolic Functions The liver plays a central role in metabolism, including carbohydrate, lipid, and protein metabolism. It regulates blood glucose levels by storing glucose as glycogen and releasing it when needed. The liver also synthesizes cholesterol, lipoproteins, and fatty acids, as well as deaminating amino acids and converting ammonia into urea for excretion.

Detoxification and Excretion One of the most vital functions of the liver is detoxification. It metabolizes drugs, alcohol, and harmful substances, converting them into less toxic compounds that can be excreted through urine or bile. The liver

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also removes bilirubin, a byproduct of red blood cell breakdown, preventing jaundice and other disorders.

Protein Synthesis The liver is responsible for producing various essential proteins, including albumin, clotting factors, and transport proteins. Albumin helps maintain oncotic pressure and transports hormones and drugs. Clotting factors are necessary for blood coagulation, preventing excessive bleeding.

Bile Production and Digestion The liver produces bile, a digestive fluid that aids in the emulsification and absorption of fats. Bile is stored in the gallbladder and released into the small intestine when needed. It contains bile salts, cholesterol, and waste products such as bilirubin.

Conclusion The liver is a multifunctional organ that plays a vital role in metabolism, detoxification, protein synthesis, and digestion. Maintaining liver health is essential for overall well-being, and liver diseases can have severe consequences. Further research into liver physiology can help develop advanced treatments for hepatic disorders.

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