open.michigan

Author(s): Rebecca W. Van Dyke, M.D., 2012

Attribution Key

for more information see: http://open.umich.edu/wiki/AttributionPolicy

Use + Share + Adapt

{ Content the copyright holder, author, or law permits you to use, share and adapt. }

Public Domain – Government: Works that are produced by the U.S. Government. (17 USC § 105)

Public Domain – Expired: Works that are no longer protected due to an expired copyright term.

Public Domain – Self Dedicated: Works that a copyright holder has dedicated to the public domain.

Creative Commons – Zero Waiver

Creative Commons – Attribution License

Creative Commons – Attribution Share Alike License

Creative Commons – Attribution Noncommercial License

Creative Commons – Attribution Noncommercial Share Alike License

GNU – Free Documentation License

Make Your Own Assessment

{ Content Open.Michigan believes can be used, shared, and adapted because it is ineligible for copyright. }

Public Domain – Ineligible: Works that are ineligible for copyright protection in the U.S. (17 USC § 102(b)) *laws in your jurisdiction may differ

{ Content Open.Michigan has used under a Fair Use determination. }

Fair Use: Use of works that is determined to be Fair consistent with the U.S. Copyright Act. (17 USC § 107) *laws in your jurisdiction may differ

Our determination **DOES NOT** mean that all uses of this 3rd-party content are Fair Uses and we **DO NOT** guarantee that your use of the content is Fair.

To use this content you should **do your own independent analysis** to determine whether or not your use will be Fair.

Rebecca W. Van Dyke, M.D.
M2 GI Sequence

Review of liver physiology: Structure-function relationship.

Wednesday, February 1, 2012 10:10 a.m. - 11:00 a.m.

Required Reading:

Review liver anatomy and physiology in syllabus from M1 year, including sections on Functions of the liver, Bile production, secretion and storage, Bile acids, Liver synthesis of plasma protein, Liver as a metabolic organ, Liver and foreign molecules and Liver metabolism.

Cecil's Essentials of Medicine: 8th edition, 2010: Chapters 41-42 (Laboratory tests in liver disease and Jaundice) (7th edition, 2007: Chapter 40-41)

Learning Objectives:

To review the structural and functional organization of the liver.
To review the major aspects of liver physiology as a background for the remaining presentations on liver disease.

At the end of this presentation students should be able to:

1. Describe the basic organization of the liver cell plate and its functional consequences:
    a. Blood supply
    b. Configuration of hepatocytes
    c. Configuration of other liver cells
    d. Concentration gradients in sinusoidal blood.
2. Describe the basic physiological processes the liver utilizes to accomplish function:
    a. transport
    b. metabolism
    c. biotransformation
    d. synthesis
    e. secretion
3. Be able to give examples of the consequences of liver damage on above processes.
4. Be able to give examples of possible consequences of liver disease/injury on liver barrier function and hepatic regeneration.

Key Words: Liver sinusoids, function, injury, portal vein, biotransformation, albumin

FYI:

Maisels and McDonagh: Phototherapy for Neonatal Jaundice.
New England Journal of Medicine, 358:920-929, 2008.